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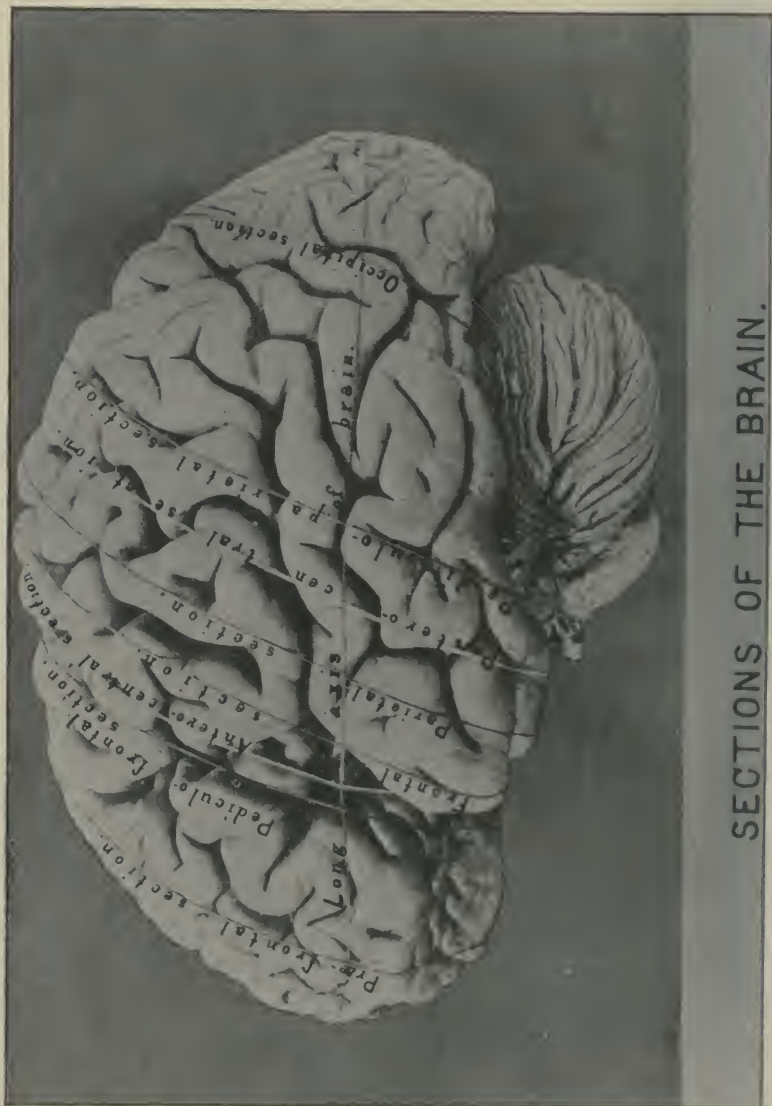
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MENTAL DISEASES.



SECTIONS OF THE BRAIN.

LECTURES

ON

MENTAL DISEASES

DESIGNED ESPECIALLY FOR

MEDICAL STUDENTS AND GENERAL
PRACTITIONERS.

BY

HENRY PUTNAM STEARNS, A.M., M.D., ^{1828-1905.}

PHYSICIAN SUPERINTENDENT OF THE HARTFORD RETREAT, LECTURER ON MENTAL DISEASES
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WITH ILLUSTRATIONS.

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PREFACE.

The following lectures have been prepared as a basis for instruction in Mental Diseases to the medical students of Yale University. They are now published, in the hope that they may be of service not only to students in other Medical colleges and schools, but also to general practitioners.

The principal works consulted in their preparation are those of Ball, Dagonet, Voisin, Griesinger, Obersteiner, Lewis, Maudsley, Spitzka, and the excellent manual of Tuke and Bucknill. I gladly embrace the present opportunity to express my many obligations to the authors of these works.

I am indebted to my friend, Dr. Henry M. Hurd, for valuable suggestions, and to Dr. W. L. Worcester for assistance in proof-reading.

I have used illustrations for the first few pages of the introductory lecture, three of which are from Blackburn's "Manual of Autopsies," and twelve from Obersteiner's work on "Central Nervous Organs."

An Appendix, comprising the most important parts of the laws of the several States and Territories, relating to the duties and responsibilities of physicians concerning the insane at the present time, will be found convenient for reference.

*Hartford Retreat, Hartford, Conn.,
December 13, 1892.*

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Lectures on Mental Diseases.

LECTURE I.

INTRODUCTORY.

THE PHYSICAL BASIS OF THOUGHT.

Advance in the Study of the Minute Anatomy of the Brain—Lobes, Convolutions and Fissures of the Brain—The cortex cerebri—Grey matter of the Brain—Central Ganglia—Optic Thalami—The Striate Bodies—Two Kinds of Nerves, the Sensory and Motor—Anatomy of the Nerves—Anatomical Arrangements of the End Organs of Sense—Functions of the Nerves—The Transmission of Irritations to and from the Cortex—Functions of Nerve-cells and Nerves Contrasted—Transformation of Irritations into Sensations—The Thought-process in its Relation to the Molecular Activities of the Nerves and Cells of the Cortex—The Evolution of Sensations, Perceptions, Thoughts, Purposes, and Opinions—The Mind, Personality, Ego—Views of Different Authors—Nerve-energy—Agents which Affect it—Measurement of its Degree of Action—Derangement of its Normal Action the Initial Element of Insanity.

No greater advance has been made in the study of the minute anatomy of any organ or part of the system within recent years than in that of the brain and spinal cord. This has been stimulated in the first instance by the desire to understand more fully and perfectly the relation which had long been surmised to exist between disordered mental

states and diseases of the brain, but which it had never been feasible to demonstrate. The microscope and the discovery of means whereby brain tissue can be prepared for observation, have now made it possible to study some of the pathological conditions to which it is subject. It, therefore, may be regarded as important, in introducing you to the study of mental diseases, to call your attention to some of its component parts and ganglia; and also to allude to the complexity and arrangements of the elements of which it is composed. While a résumé of the knowledge of the anatomy and physiology of the whole nervous system is most desirable and important as preliminary to the study of insanity, yet the subject is too large for a lecture. An attempt at a complete presentation would necessarily cover too much of the space allotted to me in these lectures. It will, therefore, be my purpose to present only the briefest enumeration and description of some of those parts of the brain and nerves which are supposed to be most intimately concerned, through their physiological functions, in mental processes. For further and more perfect account of the anatomy and physiology of the brain and spinal cord, I refer you to the works of Obersteiner, Hughlings Jackson, Bevan Lewis, Meynert, Luys, and others, whose recent studies have so greatly enriched our knowledge of this subject.

The nervous system may, then, for convenience of study, be divided into two portions: First, the encephalon, or brain proper, with the spinal cord; and second, the nerves which pass to and from the brain to all portions of the general system, covering every point upon its whole surface. The brain itself is composed of two hemispheres, symmetrically constituted and arranged, which are united by a band of white fibres constituting the commissures, by means of

which they are brought into the most intimate connection, establishing thereby a sort of double brain. Each hemisphere is mapped out into lobes and convolutions, which are bounded more or less definitely by lines or fissures. While the arrangement of the fissures is not invariable, yet it is

FIG. 1.



SIDE VIEW OF THE BRAIN.

generally so definite as to be easily recognized, especially in the more important ones. The principal fissures are : 1. **Fissura Sylvii** or the great lateral fissure. 2. **Sulcus Rolandi**, or the transverse fissure. 3. **Fissura occipitalis**, or the perpendicular occipital fissure. 4. **Fissura calcarina**, or

the horizontal occipital fissure. Besides these there are other minor or secondary fissures. The **frontal lobe** has four of these fissures, two of which are perpendicular, and two lon-

FIG. 2.



VIEW OF THE BRAIN FROM ABOVE.

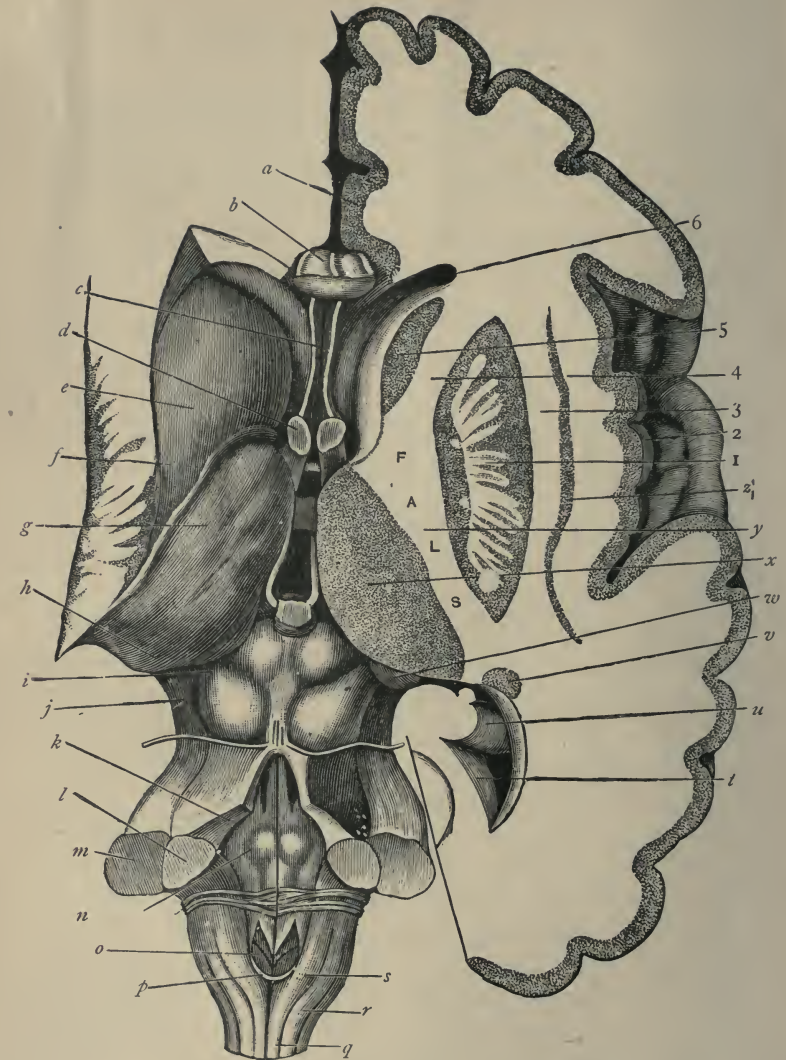
gitudinal; and also four convolutions; the *anterior central*, the *middle*, the *lower*, and *upper longitudinal*. The **parietal lobe** is divided into the superior and inferior, and has four

convolutions, viz.: the *posterior central*, the *parietal superior*, the *inferior*, and *superior parietal arches*. The **temporal lobe** has three quite definite lines or fissures, and four convolutions: the *superior* and *inferior*, the *middle*, and *vertical*. The **occipital lobe** is nearly triangular in form, and also has four fissures and four convolutions, viz.: the *arcus occipitalis*, and the *three convolutions of Ecker*.

Proceeding on a radical and developmental basis, the brain has been otherwise divided into the **prosencephalon**—the fore-brain; the **thalamencephalon**—the between-brain; the **mesencephalon**—the mid-brain; the **epencephalon**—the hind-brain; the **metencephalon**—the after-brain, or the oblongata. The first of these, or the great brain, will be referred to hereafter. The 'tween brain includes, as its most important parts, the optic thalami, the optic tracts, the corpora mammillaria, the two corpora geniculata, and the third ventricle. The mid-brain contains the great cerebral peduncle, and the corpora quadrigemina. The hind-brain, or the cerebellum, comprises a large body of crossing fibres and is covered, like the fore-brain, with grey matter. Numerous superficial fissures cover its external surface; they are irregularly arranged and of unequal depth, and serve to divide it into several more or less distinct lobes. These fissures impart to the organ its characteristic appearance. The after-brain, or the medulla oblongata, is the intermediate body uniting the spinal cord and the brain, and measures about three cm. Its dorsal surface is nearly covered by three sulci which extend up from the cord, and serve to bring into view more or less distinctly certain prominences, the most prominent of which is the inferior olive.

There are two kinds of matter which enter largely into the constitution of the brain, and which are quite distinct from each other in appearance and character—the grey and

FIG. 3.



a. Gyrus fornicatus.
 b. Corpus callosum.
 c. Septum lucidum.
 d. Columnar fornicis.
 e. Corpus striatum.
 f. Stria terminalis.
 g. Thalamus opticus.
 h. Pulvinar.
 i. Brachium conjunctivum anticum.
 j. Peduncular cerebri.

k, l, m. Crus cerebelli.
 n. Origin of the abducens.
 o. Ala cinereæ.
 p. Obex.
 q. Funiculus gracilis.
 r. Funiculus cuneatus.
 s. Clava.
 t. Calcar avis.
 u. Hippocampus.
 v. Caudate nucleus.
 w. Corpus geniculatum mediale.

x. Thalamus opticus.
 y. Capsula interna.
 z. Clastrum.
 1. Nucleus lentiformis.
 2. Island of Reil.
 3. Capsula externa.
 4. Capsula interna.
 5. Caput nuclei caudati.
 6. Cornu anticum.

white. The characteristic element of the former is the nerve cell, of the latter medullated fibres; while the function of the former is the origination or rather the transformation, and that of the latter the transmission of nerve impulses. Grey matter covers the whole exterior and upper convex surface, and is termed the **cortex cerebri**. It is somewhat unevenly arranged; is enclosed in two or three membranes on the external surface, and passes into the different sulci and the median division, until it reaches the commissural fibres.

This cortex, composed so largely of grey matter, is of the highest significance to the student of mental diseases, as it constitutes the great centre to which all influences or impressions are radiated from the periphery, and from which they are again reflected outward. It comprises those combinations of cells, fibres, and blood-vessels, whose physiological function constitutes so important an element in the evolution of mental activities. It, with other agglomerations of ganglia composed of grey matter, constitutes the sub-structure, the physiological derangements and changes of which produce the several genera of mental disorders which are grouped under the term insanity. Its depth varies, as does also the depth of the sulci or fissures which intersect it, in different orders of animals and in different individuals of the same order.

The numerous and intricate sulci into which the grey matter dips, serve to very largely increase its extent of surface, the material being, as it were, doubled up on itself; whereas, if the grey matter was simply extended in a smooth form along the concave cavity of the cranium, a greatly less extended surface of it could be enclosed within. In the monkey and the higher orders of the mammalia, below the genus homo, these sulci are much more rudimentary, and only in the

human species do they become complicated and fully pronounced. This fact appears to confirm the theory that in some manner the higher degree of intelligence depends upon the superficial area, as also upon the depth of the grey matter. This view is further strengthened by the fact that in imbeciles, idiots, and some classes of criminals, these sulci are much more superficial than in the higher and more intellectual classes of persons.

In passing downward from the superior surface of the grey substance comprising the cortex, we perceive that it varies to some extent in depth in the different regions of the brain, and is arranged in more or less distinctly-marked concentric layers. (Meynert.) In the convolutions are found no less than five of these layers, the *first* of which is made up largely of connective tissue, with a small number of quite irregularly shaped cells scattered through it, but which are found more often near the external surface of the layer, and with extensions downward. In it are also found fine medullated and non-medullated nerve fibres and blood-vessels.

The *second layer* is much more sharply bounded, and is filled with large numbers of a peculiar triangular or pyramidal shaped cell, which is termed the nerve cell. These cells vary considerably in size, and have small processes which radiate from their sides and angular points. In form and general appearance they differ from the cells of any other portion of the system, and all have their apices turned toward the surface of the convolutions, and are arranged in layers more or less parallel with each other. They are smaller than those in the layer next below, and have been called the "small pyramids."

In the *third layer* these cells become four or five times larger than those of the second layer, with a diameter from

FIG. 4.



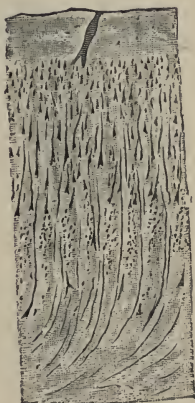
FIG. 5.



FIG. 6.



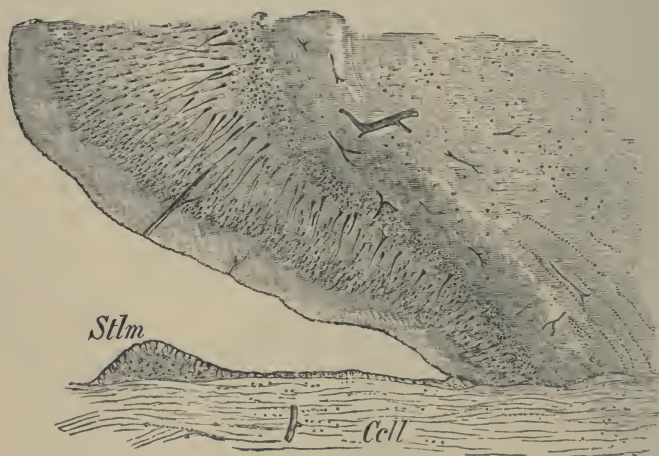
FIG. 7.



SECTIONS THROUGH THE CORTEX CEREברי, SHOWING THE CELLS OF THE
DIFFERENT LAYERS.

one twelve-hundredth of an inch to one fifteen-hundredth, and are more widely separated from each other in consequence of the multitude of fibres which pass everywhere between them. Indeed, they appear to be enclosed in a network of fibres and blood-vessels. They all have several processes passing in different directions from those points which are more or less angular, together with a kind of

FIG. 8.

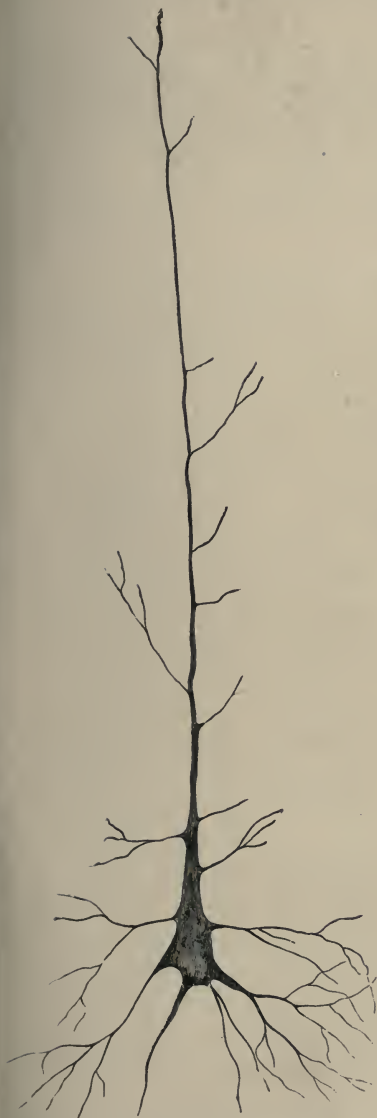


CORTEX OF THE GYRUS CINGULI.

Cell, corpus callosum; *Stlm*, stria longitudinalis medialis.

fringe-work extending along the whole border of each cell, and more especially at the points where the nerve-fibres appear to enter or leave them. The larger nerve-fibres appear to connect with the cells at both the lower and upper points, and from the lower pass to the upper spaces where they interlace with each other, and then again pass downward.

FIG. 9.



PYRAMIDAL CELL FROM THE CORTEX. $\times 200$.

FIG. 10.



CELL FROM THE SPINAL CORD. $\times 150$.

They have nuclei which are also pyramidal in form, and also nucleoli which are surrounded with layers of protoplasmic material, which is more dense than that lying near the surface of the cell. These nucleoli are "also divisible into secondary filaments" (Luys), and for aught we know now to the contrary, may be found to have a most complicated structure.

In the *fourth layer* there appears to be an almost total absence of these pyramidal cells, and in their place there is observed a large quantity of elements irregularly shaped, which is termed the "granular formation." These elements are larger in the upper portion of the layer and are grouped irregularly into clusters. Near the lower portion of the layer they become smaller and often isolated.

Below this is the *fifth layer*, which is not very definitely bounded, but has a considerable number of cells, some of which, especially those in the upper portion of the layer, are pyramidal in form, while those in the lower portion and near the medullary substance of the brain are long and spindle-shaped. (Meynert.) They also send out processes or fibres toward the granular elements of the fourth layer.

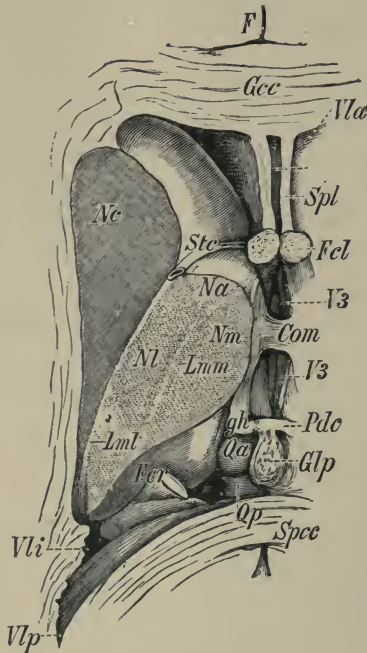
In our progress downward we next come to the **medullary substance**, which contains more or less of the spindle-shaped cylinders, with fibres or bundles of them extending in the same general direction as those of the layers already described. There exist also, associated or intermingled with these fibres, "branching cells," in varying numbers according to locality. Below this, though there exists no sharply defined line of division, is the white substance of the brain, which is filled with granular matter and nerve-fibres, and furnishes a cushion, as also a support, for the innumerable medullated nerve-fibres which pass through it from the cortex to the periphery.

About the basal centre of the brain we find another aggregation of grey matter, though arranged in a very different manner. In a general way it may be said to be made up of several aggregations of ganglia, the larger and more important of which appear to be the **optic thalami**, the **corpora striata**, the **corpora quadrigemina**, and the **pineal gland**.

The *optic thalami* are situated in the rear of the striate bodies, and directly above where the spinal cord enters into and becomes part of the brain. They are broader behind than on the anterior end, and have a form somewhat like the shape of a wedge. The surface of a section made across the body of the ganglia would present three angles more or less distinctly acute. They are composed largely of grey matter, arranged in layers, which is made up of nerve-cells, medullated fibres, and blood-vessels. These cells are grouped together in different portions of the thalamus, and appear to form centres around which the medullated fibres gather, and are radiated to the several portions of the cortex—*anterior*, *posterior*, and *lateral*. The nerve-fibres reaching the ganglia from different directions appear to cross from side to side and end to end, and form more or less distinct planes extending across the thalamic body. Luys claims that they are each composed of or contain four small ganglia. These several ganglia would, therefore, become a sort of terminal centre or pivot, around which revolve all the attractions and reflections of the nerve-fibres, which arrive here from all portions of the body, one of which is found to be connected directly with the olfactory nerve, and therefore receives all impressions made upon it; another with the optic nerve, and therefore receives and transmits all impressions produced on it. The third is intimately connected with the nerves of general

sensation, which reach it through the spinal cord, while the fourth receives the impressions communicated by the auditory nerve. In this way it appears that there exist

FIG. II.



SECTION THROUGH THE 'TWEEN-BRAIN BENEATH THE UPPER SURFACE OF THE OPTIC THALAMUS AND THE NUCLEUS CAUDATUS. THE THALAMUS, THE NUCLEUS CAUDATUS AND THE IMMEDIATELY SURROUNDING PARTS ARE SHOWN.

Com, commissura mollis; *V3*, third ventricle; *Fcl*, columna fornicis; *Spl*, septum pellucidum; *Vlu*, anterior horn of lateral ventricle; *Acc*, genu corporis callosi; *Pdc*, pedunculus pinealis; *Glp*, glandula pinealis; *Qp*, posterior corpora quadrigemina; *Qa*, anterior corpora quadrigemina; *gh*, ganglion habenulae; *Nc*, nucleus caudatus; *Stc*, stria cornua; *Na*, nucleus anterior; *Nl*, nucleus lateralis.

separate and, in some measure, independent centres for the reception and transmission of impressions received through

the different channels of communication. For instance, the ganglia which receive the fibres of the optic nerve may become inoperative, from the effect of disease, while those of hearing and general sensation may remain sound, and, *vice versâ*, those of hearing and feeling may become disordered and that of sight remain sound ; whereas, if the nerves of all these channels of communication were to centre in one ganglion, a disorder of this one would at once close up all means of communication with the world outside.

These ganglia, however, are not supposed to be the terminal points of the nerve-fibres, which reach them from all parts ; on the contrary, the fibres appear to pass through or around them, and are found emerging from them toward the nerve-cells we have already described as largely composing the grey matter of the cortex of the brain. This view of Luys has been regarded by some anatomists of the brain as somewhat fanciful and has not yet been fully confirmed ; of its general accuracy, however, there can be little doubt. Dr. W. Bevan Lewis,* while appearing to be somewhat guarded in his statement, says that " radiative fibres in coarse fasciculi are seen passing from the whole extent of the upper margin of the thalamus, either directly outward toward the parietal lobe or arching upward toward the occipital region. These fasciculi consequently form the outer wall of the lateral ventricle in their course toward the parietal lobe. If the scalpel divide across parallel to the direction of the stria cornea, the blade passes directly into the internal capsule, and it becomes evident that the outer obliquely-placed surface of the thalamus rests upon the internal capsule as upon a couch, and gives off from the

* " Text-Book on Mental Diseases," pp. 43, 45.

whole of its outer aspect medullated fibres, which enter into the constitution of this capsule, and then spread as coronal radiations to the various districts of the cortex of the parietal and temporo-sphenoidal lobes. * * * The zonular layer of the thalamic capsule receives fibres from almost every region of the brain—the frontal, parietal, temporo-sphenoidal, and occipital lobes, and the mesial aspect, or gyrus fornicatus, as well as the retina.”

In like manner fibres radiate from other bodies of grey matter; the caudate nucleus, the lenticular nucleus, and from the olfactory bulb.

The *corpus striatum* has already been referred to in connection with the optic thalamus and, indeed, forms a sort of complement to it. It is situated a little laterally and anteriorly to the thalamus, and consists of a reddish, dark, ovoid body, with its largest portion to the front, and receives the converging nerve-fibres which come to it from the various regions of the cortex of the brain. It is supposed that these fibres terminate in this body, or at least they have not yet been traced, as passing through it. But there are others emerging from the under-side of it, which pass down and out to the various portions of the body in some such manner as do those which pass from the thalamic ganglia to the various regions of the cortex. If these views shall be verified by further researches of anatomists, this body may be supposed to serve as a sort of station or halting place for all impressions which have been received and transmitted through the sensory nerves to the optic thalami, and to other ganglia of grey matter in its vicinage, thence up to the nerve-cells of the cortex of the brain, and again down to this and other bodies of grey matter. Here they are supposed to be reinforced, and again become materialized by being converted into motor action; that is, they are sent

out in the form of speech, movement, or action in some direction.

The nerve-cells which are found in these ganglia, and, indeed, in all other parts in which fibres and grey substance are endowed with special functions (according to van der Kolk), have a character peculiar to themselves in their form, size, and structure, as also in their relations and connections with other cells. Nerve-cells also differ very materially in size according to the ganglia and the regions of the cortex in which they are found, and the character and importance

FIG. 12.

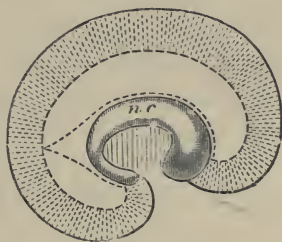


FIGURE SHOWING THE RELATION OF THE NUCLEUS CAUDATUS TO THE CORTEx.

of the functions over which they preside, and possibly the length of time they have existed.

It has already been noticed that the nerve-cells which are found in the different layers of the cortex vary very considerably in size, the larger portion of those found in the second and fourth layers being much smaller than those which are found in the third layer. As the layer containing the larger cells lies between the others, this difference in size cannot arise from their location, or upon advantages secured through nutrition; and as they are arranged

upon a system which is found to invariably obtain in the human brain, it is reasonable to look for the explanation in the degree or quality of function. The arrangement of the cortex in more or less definitely bounded layers, would also indicate diversity of function; indeed, it is difficult to conceive of any other cause for such diversity in the anatomical arrangement of the cortex except this, as nature always proceeds upon the simplest plan which is adequate to the discharge of function.

The fact, therefore, that the cortex cerebri presents in its constitution such complexity of arrangements and such diversity in its elements, points to diversity of function, in quality, if not in quantity. Dr. W. Bevan Lewis calls attention to the probability that the larger nerve-cells in the motor region of the cortex are, by their medullated fibres, connected with and preside over the ganglia of the spinal cord which govern the movements of the lower extremities. The fact that this influence has to pass over such a long distance, as compared with that which passes to the ganglia located at the cervical portion of the cord, would indicate the requisition of a larger amount of function. This will also vary in size to some extent, according to the height and physical constitution of the individual. Larger muscles also require for their functional activities more of nerve energy than small ones.

A similar view was suggested some years ago by Dr. Hughlings Jackson.* This is as follows: "I have suggested that the size and shape of cells, as well as their nearness to the tumor or other source of irritation, will have to do with their becoming unstable; other things being equal, the same quantity of matter in many small cells will

* "On Temporary Paralysis after Epileptiform and Epileptic Seizures."

present a vastly greater surface to the contact of nutrient material than the same quantity in one large cell. I have also suggested that small muscles, or, more properly, movements, which require little energy for the displacements they have to effect (those of the face and hands in touch, for example) are represented by small cells. Such movements are rapidly changing during many of the operations they serve—in writing, for example—and require repetitions of short liberations of energy and necessitate quick recuperations of the cells. Movements of the upper arm are, in comparison, little changing, and require persistent, steady liberations of energy."

Before referring further to the peculiar manner in which these cells act in connection with the nerve-fibres connected with them, it may be necessary to refer somewhat in detail to the structure and arrangement of the nerves themselves. There exist two kinds of nerves, first, the **excito-motor, or nerves of sensation**; these all convey impressions from the periphery of the body to the spinal cord, and thence up to the aggregations of ganglia which have been already referred to. Second, the **motor nerves**, which emerge from the various centres of the cortex and pass down through the corpora striata and other basal ganglia; or according to some authorities, directly through the internal capsule and the pyramidal tracts of the pons and medulla, and in their turn are distributed through the cord and convey sensations, after they have become materialized, back to the periphery of the body, eventuating in speech or motion. All medullated nerve-fibres have axes which are covered with two or more envelopes or coats, which appear to serve the purpose of isolating them from the parts which lie adjacent. They arise in connection with the cells of the grey matter, and extend to all portions of the body. They compose largely

the white substance of the brain and spinal cord. The axis-cylinder of the nerve appears to be the essential portion in the transmission of irritations received upon the peripheral terminations, and is composed of "protein

FIG. 13.



NERVE FIBRES FROM
THE SCIATIC OF
THE FROG. $\times 400$.

FIG. 14.



PERIPHERAL NERVE FIBRES OF
THE FROG. $\times 1000$.

FIG. 15.



MEDULLATED FIBRES. $\times 200$.

substance" and fine fibrillæ, so arranged as to be susceptible of isomeric transformation from one state to another. It is the axis portion of the nerve which becomes connected directly with the terminal vesicles, and also with the percep-

tive cells and sensory ganglia of the grey matter at the base of the brain.

In order to indicate more fully the manner in which irritations are received upon and transmitted through the nerves to the basal ganglia, where they become converted into sensations, it becomes necessary to trace out more fully the peculiarity of their terminations. This varies to some extent in the different portions of the cutaneous surface.

In the skin of the *fingers* and *toes* are found small bodies called tactile corpuscles, imbedded in the immediate surface, which are filled with granular matter, easily compressible and mobile in character, to which the peripheral end of the nerve-fibre becomes united after passing around it. Whenever pressure or friction is effected on these surfaces and the corpuscles become affected, they communicate this motion to the nerve-fibres with a greater impulse than they could receive if they were only imbedded in the general mass composed of a much more stable tissue. In some other localities the surfaces of which are subject to frequent friction or pressure, such as the surfaces of the arms and legs, these minute corpuscular bodies have not been found. According to Mr. Herbert Spencer, on these surfaces each of the short hairs, which grow in greater or less abundance, acts as a "tactile multiplier," greatly increasing the effects of such pressures as are brought to bear upon them.

But it is more especially in connection with the other **special organs of sense**, that the peculiar connection of the peripheral termination of nerves with the external surface has been studied and demonstrated most perfectly. For instance, the vibrations of the atmosphere caused by the action of bodies upon one another are not heard at the perceptive cells at the basal ganglia *as sound*. These vibrations are supposed first to affect the cells which are imbedded in the liquid

of the internal chamber of the ear, and these cells communicate the impressions of irritations to the auditory nerve, which in turn conveys them to the perceptive ganglia at the base of the brain. Another theory is that the vibrations of the air, according to their rate, set in motion the different elements of the organ of Corti, which communicate the impulse to the special fibres with which they are connected.

These numerous cells are doubtless connected, either directly or indirectly, with the numerous nerve-fibres of the auditory nerve, thus causing the peculiarity of tone for which it is adapted by its construction; whereas, if all vibrations were to impinge directly upon the auditory nerve, and be conveyed at once to the basal ganglia, they would eventuate in a multitude of undifferentiated sounds. That these cells and their normal connection with the cells of the nerve are essential to hearing becomes evident whenever they become injured by disease or force. Vibrations communicated through any other channel to the sense-centres are not perceived as sounds, though they may be as pain. It therefore becomes evident that we do not hear directly actually the vibrations of air, but simply the molecular motion of the perceptive cells. It is the activity of these cells which we hear as sound, when it is caused by irritations acting within the brain itself, as in hallucinations of hearing.

An arrangement of a similar nature, though differing in the detail of construction, *exists in the eye*. It is a familiar experience to every one that flashes of light are perceived in the cells of perception when in reality no light has reached the posterior portion of the eye; the flash of light has been caused by a sudden blow or pressure on the head, and the expression, "I will make you to see stars," has

passed into a proverb. Behind the retina, or rather as a part of it, a superficial layer of cells or rods is arranged, the axis of each one of which runs parallel with the rays of light as they impinge upon them. These minute lines or rods become at once excited to molecular activity by the effect of the particles of light, which activity communicates the influence and stimulates the fibres of the retina. It is, therefore, only in an indirect manner that the retina is affected by light, and it is, in fact, quite insensible to its direct influence. When the nerve-fibres of the retina have become thus indirectly excited, they communicate through the optic nerve the effect of the irritation in the form of molecular activity back to the cells or small ganglia of the optic thalami, where it becomes changed into sight sensations. In this case, as in that of hearing, it is only the molecular change which has passed through the nerve to the basal ganglia which is perceived by the individual. The image formed on the retina can pass back no further on the dark passage through which the impression proceeds. The eye may be in a perfectly normal condition; its lenses, muscles, nerves, and humors may all be intact, so that the image is reflected upon the fundus of the eye; but if the optic tract is invaded by disease, or if, for any cause, its ability to convey irritations and consequent impressions to the perceptive cells is destroyed or in abeyance, there can be no sight. Only, as in the sense of hearing, there may occur hallucinations which arise from centric irritations communicated to the ganglia of sight.

An arrangement, differing in some of its details from that above described as pertaining to general sensation, and yet serving a similar purpose, exists in the *Schneiderian membrane*, comprising the machinery for perceiving odors. The peculiar epithelial cells of this membrane, which may be

regarded as forming the termination of the nerve proper, do not lie immediately at the surface, but, on the contrary, are connected by means of fine nerve-fibres with corpuscles of granular material having a highly sensitive and unstable character which lie in and pervade the whole exposed surface, and whose office it is to receive and communicate the presence of such odors of various kinds as may reach them back to the peculiar epithelial cells, which in turn convey the impression through the olfactory nerve to the basal ganglia, where they become differentiated as odors. The delicacy and sensitiveness of these corpuscular bodies, or of the communicating fibres, differ very largely in different persons, and still more largely in different species of animals. While some individuals are able to perceive only the more highly concentrated and pungent odors, others perceive the slightest and most delicate at once on approaching their presence. This is more conspicuous in respect to some varieties of game animals, especially the moose, whose organs of smell are so highly developed and enlarged as to enable the animal to perceive the approach of an enemy through long distances, and such approach is quite impracticable except from the windward.

Again, the nerve whose function is that of *taste* has a final termination peculiar to itself, which subserves a purpose similar to that above described as existing in the other special organs of sense. The small papillæ of the tongue are covered with cells which send out a fine, thread-like nerve fibril, which unites the nerve of taste with an epithelial cell. By means of this anatomical arrangement, highly concentrated and sharp, biting fluids do not come directly in contact with the nerve-fibre; and in the usual condition of the tongue, covered with the secretions of its mucous surface, do not reach even the corpuscular cells at

once, or until somewhat changed in character. How far the differences in taste in individuals may depend upon the size and activity of these cells of the papillæ is uncertain, but it is reasonable to infer that they may be, at least partially, dependent upon such differences of arrangement.

The question arises, however, in the matter of taste as in that of sound, as to what causes the different kinds or qualities of them when perceived by the senses. The ultimate particles of one substance produce an effect, which, when communicated to the perceptive ganglia, is regarded as sweet; those of another substance as sour, and those of a third as bitter. A certain rapidity of vibration in the atmosphere, when impinging upon the cells of the inner ear and communicated to the basal ganglia, produces one quality or tone of musical sound, another rate of vibration quite a different tone. The same is true in reference to the effect of different odors as they reach the sense-centre of smell. Now, does this difference of quality in taste, sound, and smell depend upon the peculiarity of movements first started in the superficial tactile corpuscle, or upon the peculiarity of vibration in the cells of the nerve-tube, which the ultimate particles of food, or movements of atmosphere produce in them? Or, again, is there a special fibril of the nerve which alone can be affected or thrown into vibration by each several quality of particles, such as sweet, sour, or bitter, which reaches it? Physiology assumes the last of these hypotheses as more fully covering the phenomena, under the name of "specific energy" of nerves. We can readily understand that a strong, bitter, or sour particle would produce a more profound impression upon the mobile granular matter of the corpuscle, and that it in turn would multiply this effect upon the granules of the nerve by means of which it is passed to the perceptive

centres, but that either rapidity or slowness of activity could be perceived by the person as sweet or sour or bitter is certainly not easily comprehended. And this is the most that we can conceive of as arising in the activity of the nerve-tube from the effect of different ultimate particles, except by the assumption of *a specific energy*. We may, however, regard it as possible that there may exist in the perceptive centres special cells, which can be roused into activity only as a particular vibration of sound, smell, or taste should reach them. Both these hypotheses, however, would only remove the difficulty of understanding how a character of motion can become a quality of taste, or sound, one step further back. The mystery remains as unsolved as before.

One fact, however, becomes apparent from what has already been observed, which is, that we do not directly perceive the phenomena of the external world. We perceive only such molecular activity of the cells or ganglia situated at the base of the brain as these phenomena are specially and severally adapted to, and actually do produce when they are brought in contact with the peripheral terminations of the nerves. It may also be inferred that accuracy in the process of observing by different individuals will depend largely upon the delicacy, sensitiveness, completeness, and functional activity of these several portions of the nervous system above described. Also, that in those cases in which persons are unable to distinguish certain colors, and are what is termed "color blind," and in those persons who are unable to distinguish between musical tones and combinations of sound, it is because the tactile corpuscles, or perceptive cells or connective fibres are either less in number, inferior in size, or defective in functional activity. To such persons the phenomena of certain sounds and color

are as if they did not exist ; and this leads to the supposition that there may be innumerable phenomena existing in the world which are unknown to us, because our nervous systems are not so constructed or arranged as to become affected by them ; and that they will always remain so, unless in the progress of coming ages our nervous systems shall become more highly organized, or additional elements of perception and intellection shall become evolved.

It is, however, in the actions and reactions of the vast network of cells, fibres, and ganglia of the cortex which are brought into activity in the various processes of thought that the mystery of functional product becomes still greater. Contrasting the functions of these two great portions of the nervous system which have now been referred to, we observe that the nerve-cell, which is found to be so important an element in the cortex, is the centre of an active principle, and that the nerve is the channel through which the influence of external phenomena is conveyed to it, and the modified results are again discharged from the body. The nerve is altogether passive, and is brought into the exercise of function only by agencies acting from without or within. The nerve-cell, on the contrary, is the seat of a conscious entity, which has the capacity of attention and will ; it pervades the whole cerebral cortex in almost infinite numbers, each one of which, while it is united with its fellows and participates with them in a common functional activity, yet has an individual character and anatomy of its own. Its characteristic form, its angles, its axes, its projections and fibres, all appear to be renewed from time to time, while the individual anatomy remains unchanged ; and these renewals take place, not by accretion or absorption from the surrounding tissues or blood-vessels

directly, but from the results of forces acting from within the cell itself; that the bioplasmic material of the interior of the cell is constantly elaborating nucleoli, which in turn become nuclei, and these afterward become the cell proper, so that the cell never wholly dies, except from disease, while the brain remains in its usual state of health, or unless it becomes enfeebled by age. Its waste elements, which are thrown off from its exterior, are constantly replaced by those elaborated within.

But aside from these physiological activities and changes going on in the cells of the cortex, there appears to be another activity which is everywhere moving hither and thither through the cortex, apprehending, forming, and combining the constant stream of impressions which are passing to it through the avenues which reach it from the external world, and those which arise in the nerve-cells from the stored-up experiences of the past, into thoughts, opinions, memories, and purposes. As these impressions reach areas of the cortex, they give rise to mental activities the nature of which will be determined largely by the inheritance, education, and previous experiences of the individual; and these thoughts and ideas may pass out through the corpora striata and the efferent nerves in the form of speech or motion. This experience is that which takes place during the conscious period of wakefulness with most persons, and is effected by, and attended with, little conscious effort on the part of the individual.

But this is not all, nor the most important part, of that which occurs in this great thought process. At other times and during the periods of our occupations, these thoughts and ideas do not pass on and discharge themselves; they are seized upon, taken up, examined, looked upon from one

side and then from another, are analyzed, modified, changed, and formed into new combinations; they are approved or disapproved by a something superior to any functional action in their formation and are finally discharged in quite another form from that which they assumed at first; or they may not be discharged from the brain at all. The thought process appears in the first instance to be transpiring with almost automatic activity, as when one walks without a present consciousness of making an effort to take the steps, or makes the requisite movements in playing upon an instrument to execute difficult musical compositions. In the second state there appears an element which acts upon, and to some extent above, the laws of automatic physiological action, and, if it does not change these laws, it certainly modifies the result of function over which they preside; and it accomplishes this not through any recognized law of which we can have any conception. Laws are invariable sequences, and physiological functions which are under the control of law, are invariable in their results; and if the act of reasoning is under the control of physical law, and arises and proceeds in consequence of that law, then that portion of the cortex whose function it is to reason should discharge its function whenever in a condition to do so. All that would be required would be the requisite conditions in the way of physiological states of the nerve-cells, and the process would continue as long and no longer than these conditions should continue, while the results *would always be uniform*. This, however, is the exact opposite of what occurs in an ordinary act of reasoning, which begins and ends when occurring in a healthy cortex by a something which acts upon the *functional product*, or *accumulated energy*, in the most irregular and inconstant manner, liberating or restraining the liberation of nerve energy, ac-

according to intention, from time to time, and which proceeds with the most variable sequences as to conclusions. This is as true in relation to the sensory and intellectual elements of the cortex, as of the more specific motor elements; indeed, there can be as little doubt that there exists a motor element, if not a muscular one, in the thought process, as that there is one in the execution of acts by any other portion of the organism, only it is infinitesimal in character and degree in comparison. The motor element in both kinds of function differs in degree rather than in quality.

All this does not imply that in the higher and more complex mental activities physiological states are of little importance. On the contrary, as to conditions, they are a prime and antecedent necessity; not only this, the several areas and elements of the brain structure, whose function is connected with the evolution of thought, require the essentials of discipline and training by a self-directing entity or energy in the direction of their activities. This is as important for the attainment of the highest results as in the training of the motor portion of the nervous system in the execution of complicated movements of other portions of the organism.

It may be added, in relation to the nature of the thought process, even in its nearest approach to automatic activity, and when there appears to be no conscious direction given to it by the will, that it is as impossible to conjecture how impressions radiated to the cortex, or arising in it, should cease as movements and appear as thoughts, as it is to conceive how they should become sensations of different kinds, and it is questionable if they do; they certainly do not bear any resemblance to the different mental states, such as joy or grief, love or hatred, an imagination or idea, which sometimes succeeds them. The most perfect method

of dissecting or analyzing the constituent elements of nerve-fibres or cells or protoplasms fails to reveal why, or to enable us to conjecture why, any molecular activity arising in the nerve should ever ultimate in anything more than molecular activity, if it is followed up to its remotest divisibility and the most delicate of chemical tests be applied in our efforts. No magnifying power of the microscope, no delicacy of acting and reacting chemical agents, no comparative analogies, enable us to span the chasm, however narrow it may be, between the final cessation of molecular motion and the appearance of sound, taste, thought, and purpose. The incompatibility appears to be absolute.

Now, while it is certainly desirable, in the search after scientific truth, to group as large a number of facts as possible under one explanation, it is surely not in the interest of science, philosophy, or knowledge of any kind to group under a single hypothesis those phenomena which have no resemblance either in appearance, form, or constituent elements. It is, doubtless, easier to conceive of and claim a common origin and character for motion and thought, but it is not in the interest of science to do this, unless there exists at least some external or internal similarity. Diversity of character indicates diversity of origin.

“Whenever we see an element produce results such as neither its ordinary nature nor the motion in which it is for the moment engaged enables us to understand, we seek the complementary ground of this effort in the different constitution of a second element, which, acted on by that movement, evolves from itself the part in the form of the result which we in vain would try to derive from the former.” (Lotze.)

This is the statement of the case as between molecular activity and thought, and it therefore becomes necessary

to introduce another element which is acted upon to account for the second of these two wholly unlike classes of phenomena. Indeed, the phenomena of the external world are apprehended by the mind only in intellectual equivalents, and the actual realities thus stand for and represent the ideal of the mind. There can be no meaning in anything else, and all systems of the higher branches of education are founded on this conception. When we read a page of any book the physical part of this proceeding consists in reflecting and conveying the forms of letters, their combinations into words, and the arrangement of words into sentences, to the brain. For this purpose there has been excited such molecular activity as the various forms of letters, words, and sentences were arranged to create. But all this is a lesson utterly barren of any adequate result. We have not yet got beyond the surface, and unless there exists back of these lines, words, sentences, and groupings of sentences concepts which cannot be reflected by rays of light impinging upon the optic nerve, which are apprehended and appropriated, then there can be very little in them for us. There must exist in them an expression of intelligence, which can only be appreciated by an intelligence with similar character. "Mind recognizes and answers to mind as face to face in a glass."

Again, take the case of a problem in geometry. Let it be required to prove that the squares described on the sides of a right-angled triangle are together equal to the squares described upon the hypotenuse of that triangle. The student may draw the requisite lines and squares; he may read over the statement of the demonstration, and even commit it to memory, and he may repeat to another, after having constructed the requisite geometric figures and lines, the demonstration he has learned, and yet really

know little or nothing of the geometric principles upon which the demonstration has been based. In other words, while the rays of light reflected from the lines in geometric figures and the statements of description have excited the molecular activity of the nerves and ganglia, and all the physical effects have been produced and have been so photographed upon the elements of the brain as to be remembered and described, yet there may be no appreciation of the demonstration of the geometric principle involved, and the individual will remain as ignorant of it as before the occurrence of any molecular activity at all. It would appear that only as the thought, which underlies all these figures, and the accompanying statements, together with axioms and principles, becomes appreciated and absorbed by a something possessing a nature akin to thought rather than akin to molecular activity, that any geometric demonstration has any scientific meaning whatever. Molecular activity is and can be but a secondary or subsidiary though necessary element, leading toward an appreciation of the thought beneath words, sentences, and figures. Thought it is which excites thought and "forms character, which is the culminating substance of nature," "the great reality" which, behind the material world, alone gives it a meaning.

The thought process, therefore, depends upon and is accomplished by the action and the reaction of the nerve-cells of the cortex, and another element, call it "force," "spirit," "mind," or whatever else you please, which pervades it. This second element, the personality, acts and is acted upon, and, we may suppose, pervades the cortex as electricity pervades the elements of a portion of iron.

The term mind, as used above, may be regarded as equivalent to either of the terms, ego, soul, or personality. These

terms, however, are made use of by writers as designations of different entities or phenomena. Some use them as signifying a spiritual entity, in its nature akin to the creative or formative principle of the universe. Though linked with a physical nature and dependent upon it for its manifestation of person, yet it is of a nature essentially different. As the universal creative Being evolves, acts upon, and directs the laws which pertain to nature, so, in like manner, though in an infinitesimal degree, does the mind, or ego, in man, discover and act upon and mould the laws with which he is environed to subserve his own plans and purposes. Some such meaning has attached to the terms from the beginning of the history of philosophy. It is, however, a hypothesis which by its nature can no more be mathematically demonstrated than can *personal identity*. One may assume it to be true and, from the correspondence of phenomena connected with it, argue for or against the probability of its truth, while the conclusions arrived at will vary very much according to the bias of mind with which the question is examined. This is one of the problems in which the *personal equation* will form an element of great weight in determining the issue.

Other authors have used the term **ego** as equivalent to the product, or sum total, of the stream of impressions which never cease to flow through the sensorial avenues to the brain from the date of birth to the hour of death. According to this view every individual ego is a variable and an ever varying quantity. It is one ego to-day, but was a largely different one last year, and will possibly be a still more widely different one next year. Nay, it varies from day to day and from hour to hour; is constantly added to or subtracted from, according to experiences and the obliteration of them from memory. An imperfectly functioning liver

changes the ego of to-day, while a neuralgic twinge of the fifth pair of nerves will make another man of him to-morrow.

Personal identity is simply the sum of those memories which at any one time is in the field of consciousness. This is, therefore, also an ever shifting and uncertain element, and never, perhaps, in a lifetime exactly twice the same.

It may be remarked concerning this view that the *modus operandi* of the transformation of an impression, or any number of them, upon the end organs of sense, after passing to the cortex into an entity, or a personality, which at once becomes endowed with the capacity to examine, compare, approve, or disapprove of the very impressions which constitute itself, cannot readily be comprehended. It certainly cannot be regarded as capable of any scientific demonstration. An effort to make one would be much like an endeavor to lift oneself by one's boot-straps. Indeed, all questions relating to the intrinsic *nature* or *source* of mind, or the ego, are comparatively profitless for the physician. That there exists such an entity which is capable of acting upon the phenomena of nature through the nervous system, and also can be acted upon through the same avenues, is sufficient, and this will be assumed in the following lectures.*

* Dr. O. Everts writes as follows in reference to the view of the ego above referred to. It "implies a personalization of phenomena and an ascription to ideal objects or persons so instituted, of attributes denied to all known material objects or beings, after the manner of the ignorant of all ages and all races."

In reference to the spiritualistic view of the ego, or mind, he says: "Admitting the existence of individuals, spiritual beings, is it not rational to infer that they are specializations from spiritual matter of individual spirits, subject to evolutions and dissolutions, corresponding to the changes that effect material specializations? Must we not recognize such beings, if at all, as objective, having form and, necessarily, substance? Hence specialized from one eternally existing common substance, hence subject to dissolutions? Were it not so,

Permit me to recall the several specialized organs or portions of the nervous system which have been referred to. They are the **cortex**, the **basal ganglia**, and the **two great systems of afferent and efferent nerves**. These are the physical instruments, intricate and most complex in their constitution, through which impressions reach the personality, and by means of which both they and the memories of past experiences are moulded into opinions and purposes, and finally projected from the brain in the form of speech or motion. Such being the anatomical and physiological relations of the brain to the thought process, it follows that any sufficient derangement or disorder of its normal condition or arrangement, and of its physiological activities, from whatever cause it may arise, would result in change of thought, feeling, and movements, as surely as a derangement or injury of the nerves of the extremities or the fingers will cause imperfect execution or total paralysis of their movements.

It is not to be inferred from the above statement that such changes can be demonstrated by observation with the microscope or any other instrument, in all or in a large per cent. of all cases. They, however, can be in certain forms of insanity, and especially in cases which have existed for a lengthened period of time. This could be inferred from a consideration of the changes and modifications of mental activities which occur from slight causes and which continue for short periods. The action of the

were matter capable of specializations not subject to further changes and an inevitable dissolution of individual forms, the limits of specialization having been once reached, all activity would cease, all nature end, and the world, the universe, become a vast assemblage of motionless, purposeless individuals, immortal, but incapable of any of the functions or enjoyments of living beings."—*American Journal of Insanity*, October, 1886.

cortex is so intimately connected with and dependent upon the general circulation, that it is constantly modified by changes in it, and yet these changes leave no permanent trace of having existed. We certainly have no chemistry or reagents which can detect the difference in the action of the cortex in the formation of a delusion, as distinguished from that of a correct conclusion. The same anatomical elements are doubtless in operation in the process of forming both, but the difference arises in the ultimate synthesis of impressions, some producing too much and others too little influence upon the personality.

In observing the modifications of mental activities in cases of acute mania, for instance, we are able to trace the normal mental trend of the individual in what he says and does. Attention, perception, recollection of past events, expression in words and act, have a correspondence in character with the previous history in these respects, only they have become quickened and exaggerated in a greater or less degree. This is at least primarily due to an increase or diminution of function in some one part, in its relation to other parts of the brain, and may continue for considerable periods of time without such disturbance in the texture of the brain as to become registered. The same must be true as to the conditions attending the states of melancholia.

Again, it does not follow that in all cases in which some portions of the cortex and ganglia are found to have been in a pathological state, therefore the mind must have been correspondingly deranged. They may have been produced by habits of living or by confinement, and yet have not given evidence of existence in life by modifications in mental activity sufficiently pronounced to attract attention. Your attention will hereafter be directed to the forms of disease in which pathological changes have been observed.

Numerous causes may operate to produce derangements in functional activity. It may arise from an anæmic or congested state; by a sudden change from one state to another; by failure in assimilative power; by a long-continued over-product of functional activity; or, on the other hand, by a lack of it; by certain substances which have a special affinity of action and which reach the hemispheres of the brain through the circulation—such as chloroform, ether, bichloride of ethyl, and other so-called anæsthetics, which cause a paralysis or suspension of consciousness. The nerve-tube is also acted upon by its environment, by accidents or force, and by special substances, among which may be mentioned *nux vomica*, electricity, strychnine, etc.

Again, if the circulation of the brain be suddenly impeded by compression of its vessels or from deficiency of heart action or failure of nerve force, vertigo or syncope will ensue and consciousness cease until the circulation of the organ is restored. Slight changes in the circulation produce correspondingly slight mental changes.

Of the nature of **nerve energy** we know very little. We are unable to observe or examine it; we cannot separate it from the nervous system and experiment with it; we cannot put it to many tests, nor can we understand from actual observation what takes place when the nerve transmits impressions. We are able, however, to ascertain the data of some phenomena connected with and evolved from its action. We can measure its capacity of endurance or resistance, and how this may become affected by environments; by foods and drinks of diverse kinds; by the seasons of the year and the hour of the day; by different mental states, such as hope, joy, anticipation; by grief, disappointment, reverses of fortune, etc. We can measure

the length of time required in different persons for the nervous system to re-energize after exhaustion, the period required for sensory and intellectual acts to occur, and some other of the mental phenomena connected with it. We know that its action differs from that of electricity or other known elements; its movement is slower than that of light or electricity, it being only some thirty-two or thirty-four metres per second, while that of electricity is many thousands of metres per second.

Again, nerve force moves toward the brain at about the rate of thirty-two or thirty-four metres per second, and from the brain at only about twenty-seven metres per second.

An act of perception varies in point of time, to some extent, with different persons, but averages about one-tenth of one second. Such investigations, and others of allied character which pertain to what is termed the physiology of psychology, are of the highest importance and may be regarded as the most promising means of preparing the way for the rational treatment of mental disorders.

All mental manifestation, whether moral, intellectual, or emotional, will depend largely upon the condition and functional activity, whether it be normal and healthy or otherwise, existing in those portions of the nervous system described above. The molecular activities which are constantly taking place during the processes of thought, speech, and action must be almost infinite in number, and when deranged by the invasion of disease cause changes in perceptions, thought, and corresponding action. Such derangements of functional activity must be regarded as a basal element of insanity.

LECTURE II.

ELEMENTS OF INSANITY.

HALLUCINATIONS—ILLUSIONS.

Definition—Ætiology—Difference in Hallucinations of the sane and insane—
Modifications in the Circulation—Congestions—Toxic Agents—Inflammations—Imperfect Nutrition—Hallucinations of Hearing—Illustrations—Hallucinations of Sight—Frequency of—Hallucinations of Smell—Hallucinations of Taste—General Sensation—The Sexual Organs—Import of Hallucinations—May Lead to Homicide or Suicide—Often present in Larvated Epilepsy—Intensity of Hallucinations—Frequency of—Table of Cases—Treatment.

Illusions—Definition—Illusions of Sight—Illusions of Visceral Sensibility—
Very numerous—May depend upon the existence of morbid growths—
Present in Delusional Insanity—General Paresis and Melancholia.

Hallucinations are false perceptions—perceptions of objects which have no existence except in the brain of the person perceiving—and consist in interpreting thoughts as *real sensations*. In real perceptions the cerebral cortex is excited by irritations transmitted to it through the peripheral nerves from the external world, while in hallucinations its action is excited by the presence of morbid conditions in certain portions of it.

“Hallucinations are subjective sensorial images which are, however, projected outward and thereby become apparently objects and realities.” (Griesinger.)

It is a hallucination when I perceive a person standing by

my side, or hear a voice in the next room, and neither the person nor the voice exists.

They consist in the revival of past experiences in those portions of the grey substance of the brain which are connected by nerve-fibres with the special organs of sense.

The train of thought, however, being once initiated, tends to become modified and changed by the introduction of other elements of past experience, and in the process of reflection new pictures or sounds will be formed, which will be presented to the mind as objects or realities, but which have never previously existed in the mental history of the individual.

They are caused by a morbid irritation, or excitement of

1st. Some portions of the afferent nerves within the brain, or

2d. Of some portions of the central ganglia, or

3d. Of limited areas of the cortex.

As undulations of light and the vibrations of the atmosphere affect the peripheral expansions of nerves and cause excitations which are transmitted to the central ganglia, and are there converted into true sensations, so in like manner do impressions which arise from the operations of morbid processes in the brain itself re-create sensations the memory of which has been stored up from past experiences.

Persons hear, see, touch, and taste all varieties of objects which have no actual reality, and yet the derangement may not exist primarily in the psychical centres, but in the sensorial ganglia, or the afferent nerves. There may be neither excitement, incoherence, depression, or dementia. The mind perceives what appears to be an actual sensation caused by an external reality, but which really comes from a subjective cause, that is, irritations of the sensorial centres from within. The difference between hallucinations in sane

and insane minds is that in the former state the mind is able to recognize that the cause is acting from within, and that the sensation is not real, and is governed accordingly. The hallucination does not lead on to the formation of delusions or to conduct inconsistent with the mental character of the individual, but when the psychical centres are also disordered, the personality becomes unable to recognize the error and correct it. It may not always be possible to determine the dividing line in the onset of delirium. Patients may be aware of the hallucination at first, and realize that it is one, and yet as the disorder progresses they lose the power of correcting their sensations and believe the objective reality of their hallucination. In such cases it is reasonable to suppose that the disordered process giving rise to the hallucination may originate in the cortex, rather than in the basal ganglia or sensory nerves.

These morbid changes may arise from various causes, such as—

1st. **Change in blood supply of the brain.**

2d. From **toxic substances** introduced to the brain through the circulation. (Stramonium, Hashish, etc.)

3d. From **congestion and inflammation** affecting the membranes and vessels of the brain.

4th. From **derangements of the nutritive processes of the brain** by long-continued fastings, mental over-exertions, mental shocks, unfortunate experiences, organic growths, slight hemorrhages, local hyperæsthesias, etc.

They may exist even in cases in which the peripheral terminations of the special organ affected have been destroyed by disease. There is a patient in the Retreat at the time of this writing who lost her hearing in consequence of an attack of scarlet fever when a small child. She has

periods of being much excited, feeble, emaciated, and sleeping but little. She will then take no food voluntarily, and indicates (she has been highly educated as a deaf mute) that she thinks it has been poisoned. At such times she is almost constantly engaged in endeavoring to reply to voices which she is apparently listening to by placing her head near the door or the wall of her room, whence they seem to come.

Any one of all the organs of sensation may become hallucinated, and it is not uncommon to have both sight and hearing disordered at the same time. Several cases have been recorded in which all the senses were affected at the same time.

In the **order of frequency, hallucinations of hearing** stand first, comprising more than one-half of all cases which have any form of hallucinations. These more often consist in the sound of voices, though other sounds are often heard, such as the singing of birds or the falling of water and the ringing of bells. Single words or the name of the individual himself may be heard, as of one calling, but generally sentences are formed and directions are issued. The person hears voices commanding him to do this, and not to do that; to pray or not to pray; to commit suicide or kill his attendants, not to take food or drink, etc. The voices may seem to come from within the brain or from persons who are in other portions of the house, in rooms above or below; they may be bilateral or unilateral. They are more frequent in the erect than in the recumbent position.

The subject matter to which these hallucinations may refer will depend, to some extent at least, upon the character of the memories of sounds which have been heard and appreciated by the individual. Persons who have "no ear for music," and have had but little appreciation or interest in

singing when in health, will rarely have hallucinations relating to it when disordered. Hence, the sounds of the voices of persons or animals are most frequently present.

Hallucinations of hearing may be present in **melancholia**, **mania**, and **delusional insanity**. They indicate serious and profound disturbances of the brain, and often render patients dangerous.

The following case will illustrate, by the statement which the patient sent me in a printed form (after consultation with me in reference to his "trouble in the head," as he called it, which he said had existed for several years), how entirely hallucinations of hearing and sight at times dominate the whole course of mental activities:—

"I hereby appeal to his Excellency to protect me in the exercise of those personal rights which are specified in the Declaration of Independence, guaranteed to me by the Constitution of the State, and clearly understood by all intelligent persons as the common law of this and every civilized nation—I mean the right to move, live, breathe, to lie down or sit up, to eat, drink, sleep, or perform any of the necessary functions of life; to walk the streets, ride in railway cars, reside in hotels or private houses, frequent places of public resort, transact any business; in short, to do any and all those things which are implied in the Declaration as the 'inalienable rights of man,' without being watched, inspected, scrutinized, spied, pursued, dogged, beset by prurient, malicious eavesdroppers and retailers of gossip; bantered, badgered, browbeat, taunted, talked at, talked to, or talked about in an undertone by passengers in the street; menaced by word or look; ridiculed, insulted, imposed upon by any human person of high or low degree, whether stranger or relative, millionaire or hoodlum, society women of the first class or of any class. All these indignities

enumerated I have experienced during the past year, from all classes and conditions of mankind in this State. Contemptible, hypocritical, prying, prurient, malicious, revengeful eavesdroppers, gossips, and clowns have watched me by day and night, and prevented me from sleep by the incessant babble of their venomous tongues. Men and women, callow youths, club men, sporting men, their wives and daughters; millionaire merchants and bankers; directors and trustees of banks, railroads, mill corporations, charitable institutions, and hospitals; shop-women, washer-women, women of the first circles and lowest circles and of all circles, have marched or driven in procession up and down the streets of Boston and Dedham for the past year, armed with the shibboleth of the party or persons whose cause they have espoused. I have observed this procession closely for a whole year, and carefully noted the epithets and phrases they have hurled at me: 'perfect fool;' 'determined to be an idiot;' 'nothing but an idiot;' 'lunatic and a fool;' 'turned out an old fool;' 'let up on this man;' 'let up on that man;' 'let up on this woman;' 'let up on that woman,' and innumerable other insults."

Hallucinations of sight stand next in order of frequency to those of hearing, and in very acute cases are even more common. They may occur at night as well as during the day, with eyes closed, and also in those who are blind; they may relate to objects or persons. In cases of acute excitement with increase of temperature, there may be mere flashes of light or colors, or the seeming perception of birds, reptiles, vermin, etc. In chronic cases the hallucinations may become systematized, and the patient perceive the same object day after day.

B. D. A., chronic melancholia, insisted that he could see the figure of a bird on the back of his head every day

during several months, and afterward, during nearly a whole year, that he could see the figure of the chaplain of the Retreat clearly drawn on a portion of my face whenever I entered the room.

Patients have sometimes visions of the supernatural—of angels or spirits of departed friends, and at the same time hear expressions of happiness or rejoicing, or those of suffering and misery. In alcoholic insanity they are nearly always of a very unpleasant character.

Hallucinations of smell are present in but few cases of insanity; they may exist in acute or chronic cases, but are more common in acute. They are generally of an unpleasant character, and relate to smells of dead bodies, poisonous exhalations, offensive odors of other patients, or noxious gases which are thought to exude through the floors or walls of the rooms which they occupy.

E. W., a case of primary delusional insanity, thought his brother filled his room with gas at night, and consequently he left it for another, and then another, until he finally left the house and slept in a shed, and persisted in so doing until he froze some portions of his feet. He was then brought to the Retreat.

Hallucinations of Taste.—It is sometimes difficult to determine whether an abnormal taste complained of is dependent upon the deranged secretions of the stomach, a coated tongue, or upon a hallucination. Unpleasant tastes are common enough from the first named causes, and the supposed taste may be more nearly an illusion than a hallucination, and depend upon a transformation by the deranged mind of one kind of taste into another. Without doubt, however, true hallucinations of taste exist in some cases; they generally are of an unpleasant nature, such as decaying animal substances, rotten eggs, blood, etc. They

sometimes form the basis of the delusion that the food which is used has been poisoned.

Hallucinations of general sensation may occur in any portion of the system, external or internal. The skin, the viscera, and the genital organs are more frequently the parts affected. It is even more difficult to diagnose as between hallucinations and illusions of the viscera than of taste. Sensations arising through the peristaltic action of the bowels are of frequent occurrence at all times, but in a state of health are so weak as to attract little attention, though they may be easily misinterpreted by a diseased mind. There may exist a condition of hyperæsthesia, or organic growths, the presence of which cannot be detected, but which render all such movements acutely painful. When the skin is the seat of the hallucination, it is of a painful nature.

Mrs. M. complains that spirits are pouring liquid lead over her head, and that it runs down her spine; that her hair and scalp are burned off, leaving it a bleeding, horrible sight.

Mr. E. complains that there is a child in his chest, and that it is an outrage that it is not removed at once.

Mr. C. says that electrical influences affect his whole spinal cord, shooting up and down as if needles were being inserted, and that at times they extend to his finger ends. At other times, and whenever the night-watch passes the door of his room, he is conscious that some influence acts upon his scalp which draws it more tightly over the bones of his head; that at other times it screws his brain up into a corner of the cranium, or twists one of his eyes from its axis.

Hallucinations of the sexual organs may form a special class by themselves, and are often present in some forms of

insanity leading to masturbation and inordinate sexual desire.

Women complain that men enter their rooms at night and abuse them ; they imagine that they are pregnant, or that they have intercourse with angels, etc. The sensations with men are often of a voluptuous character, and they imagine that beautiful women visit their rooms at night. In other cases a sensorial derangement of the sexual centres of the brain leads to the belief that the patient has been castrated ; in other cases to suspicions of marital fidelity, and consequent homicides. They also sometimes form the basis of horrible delusions and impulses which lead to self-mutilation and the removal of the sexual organs.

The Import of Hallucinations.—They do not invariably indicate insanity ; they sometimes exist in sane persons, especially during sleep, or when only partially awake. Doubtless hallucinations of sight are more frequent during dreams than those of hearing, and also become recorded as experiences more perfectly. Dreams sometimes occur in which both sight and hearing become hallucinated, as when one sees the picture of his own face while it is being photographed ; he sees its characteristics of likeness and unlikeness to himself, especially the unlikeness, which doubtless arises from the imperfectness of the representation on the brain centres. He may also hear his own remarks offered in commendation, or criticism of it, and be able to recall the whole dream with more or less distinctness immediately after he awakes, but the impression usually remains only for a short time.

Any of the special organs of sense may be hallucinated while one is dreaming, and the person is often awakened in consequence of the vividness of the impressions which are transmitted to the sensorium. Indeed, the physiological

process of dreaming may be regarded as a hallucination of the psychical centres of the brain.

Persons of the highest intelligence have experienced hallucinations for years, and without impairment of mental integrity. This is not unfrequently the case in females after the great climacteric in consequence of the change in the circulation of the brain. It is also true sometimes in elderly persons in consequence of pathological changes in the blood-vessels which are in the vicinity of the auditory nerve. They complain of sounds as of the beating of drums, the falling of water, the rumbling of carriages, or the shout of a multitude of people, etc., etc.

A person once complained to me that he was annoyed with the sight of a man dancing among the trees of the lawn whenever he looked from his windows in the morning. He realized that such a thing was quite impossible, and recognized it as a hallucination. An improvement in his general health caused the hallucination to cease.

Jeanne d'Arc presents one of the most remarkable cases of hallucination of hearing on record. Beginning at the pubescent period, and while she was tending her father's sheep on the hills of Domremy, they were interpreted, in accordance with the intelligence of the times in which she lived, as the voices of angels. They continued with little remission through all the eventful and terrible scenes of war and carnage through which she eventually passed. They brought solace and comfort, and sustained her in the final experience to which she was consigned by the barbarous usages of the age. There certainly exists no evidence that they extended to the psychical centres or developed insane delusions.

Cases are reported in which hallucinations of sight have existed during many years with mental integrity apparently

unimpaired, and in which, after death, disease of the optic nerve has been found. Such cases are, however, not frequent, and hallucinations proceed from the existence of morbid processes in the central ganglia which extend to or influence other portions of the brain and cause insanity.

The degree of their importance may be inferred in a general way from the character of the disease with which they are connected. In cases of acute insanity attended with excitement, and especially in alcoholic insanity, they are not of serious import and almost invariably pass away when convalescence becomes established. Hallucinations of hearing in primary delusional insanity, and melancholia attended with insistent ideas, delusions of persecutions and depressive emotional states, are of serious import, and indicate the importance of seclusion and treatment. They become the cause of many homicides and suicides, and it is quite impossible to prophesy what may be the conduct of persons at large who believe themselves under the influence and direction of voices which are all the while with them and directing their conduct.

Yet in these forms of insanity the danger will depend much upon the nature of the delusions which are present. When these are of an exalted character, and the person imagines that he is a person of great importance, and holds offices of large trust, or that he is the trusted agent of others in high station, there will be little or no danger. Cases are, however, reported in which homicides have resulted from resentment from want of respect for the patient's imagined dignity. If, on the other hand, there exist delusions of persecution, and the patient thinks he is deprived of his just rights, if he is taciturn and broods over his imaginary wrongs, and especially if he has delusions of persecution, with loss of sleep, or if he has epilepsy in any form, then

too great caution cannot be exercised in reference to proper care and seclusion.

Hallucinations of sight and hearing are frequent in **epilepsy**. This is the case especially in larvated epilepsy, and when the convulsion does not become fully developed. Such patients often see flames of fire, luminous balls, or brilliant pictures of places, houses, persons, or animals when they are approaching an attack, or after the congested and convulsive stage has passed and consciousness has become partially restored; or they may hear the sound of voices which seem to come from persons seen and which issue commands to do or not to do certain things. Hallucinations of general sensation in the form of heat or cold are often present and constitute the primary element of the convulsive stage. They may be of an agreeable character or cause distressing emotions in the subject.

Hallucinations of sight are often present in *congestions* and *inflammations of the membranes of the brain*, and in typhus and typhoid fevers when of a serious character.

F. H., a student, was prostrated by a severe attack of typhus fever, and on the third or fourth day became delirious. During the ten or twelve subsequent days he was nearly all the while, when not sleeping, greatly troubled and affrighted by spectral hallucinations of a horrible character, which seemed to be ever present before his eyes. In this case none of the other organs of sense were hallucinated.

Hallucinations are sometimes present during periods in *intermittent fevers*. They are also common in patients who remain much in solitude, absorbed in their own meditations especially if they refuse food.

The Intensity of Hallucinations will differ very largely in the different genera of insanity and in different cases of

the same genus. In some cases they become extremely vivid, and the impressions upon the psychical centres continue for days so distinct as to be recalled and explained, while in other cases they appear to be faint, confused, and soon forgotten. It is, however, characteristic of hallucinations in the insane that they do not continue more than a few minutes, or a very short period, without interruption, and that their registrations are soon effaced. In hallucinations of hearing the voice-sounds cover only short sentences with frequent interruptions and with changes in character and subject matter.

Esquirol estimates that hallucinations are present in 25 per cent. of all cases of insanity. This is not a higher proportion than would accord with my experience in acute cases.

The table, page 61, comprising 307 cases, arranged by Dr. Edward B. Lane to illustrate the frequency of hallucinations of the different senses in several forms of insanity, will confirm in a general way the accuracy of the preceding text.*

Treatment.—The physiological basis of hallucinations is such in most cases that they cannot be controlled or much modified by the use of medicines, except indirectly. When they depend upon an anæmic condition of nerve-tissue they may be relieved by the use of such medicines as will improve this condition. They may also be relieved when due to a congested state of the vessels; in some few cases by the use of bromides, digitalis, and belladonna. Some cases in my experience have been relieved by the subcutaneous use of the hydrobromate of hyoscine. This latter

*“Hallucinations in the Insane,” *Boston Medical and Surgical Journal*, Vol. cxxv, No. 11.

remedy, however, has proved to be even of temporary service in only a limited number of cases, and it has not yet been determined as to what class of cases it may afford any relief.

HALLUCINATIONS.

	HEARING ALONE.	SIGHT ALONE.	SMELL OR TASTE.	HEARING AND SIGHT.	HEARING, SIGHT, AND SMELL.	HEARING AND TOUCH.	HEARING, SIGHT, AND TOUCH.	SIGHT AND SMELL.	NONE.	TOTAL.
Paranoia,	38	1	1	18	5	2	1	1	....	67
Acute melancholia, . .	32	5	....	9	4	....	....	....	5	55
“ mania,	15	....	....	3	....	....	....	....	20	38
General paralysis, . . .	9	2	1	3	....	....	....	....	19	34
Post-paralytic insanity, .	....	1	....	2	....	....	....	....	7	10
Other organic brain diseases,	3	....	....	2	*1	....	....	....	....	6
Epileptic insanity, . . .	4	4	....	....	....	....	....	....	....	8
Insanity of pubescence, .	4	....	....	2	....	....	....	....	5	11
Katatonía,	2	....	....	2	....	....	....	....	....	4
Hysterical insanity, . .	....	....	....	1	....	....	....	....	5	6
Senile insanity,	6	5	....	2	....	....	....	....	16	29
Alcoholic insanity, . .	....	1	....	2	....	....	....	....	....	3
Recurrent mania, . . .	....	....	....	1	....	....	....	....	3	4
Folie du Doute,	1	....	....	....	....	....	....	....	....	1
Simple mania, . . . . .	....	....	....	....	....	....	....	....	2	2
“ melancholia, . . . .	....	....	....	....	....	....	....	....	10	10
Folie circulaire, . . . .	....	....	....	....	....	....	....	....	7	7
Senile dementia, . . . .	....	....	....	....	....	....	....	....	6	6
	114	19	2	47	10	2	1	1	111	307

* And touch.

The course of treatment should be indicated by the conditions and peculiar indications present in each case, and

generally without reference to the kind of hallucinations which may exist. It should be borne in mind that they are mere symptoms of morbid processes, and that as these become modified or improved the hallucinations will disappear.

The moral management of cases affected with hallucinations should have especial relation to them, and, indeed, may become one of the most effectual means of lessening their intensity.

ILLUSIONS.

Illusions consist in false interpretations of external objects. The peripheral terminations of nerves receive and transmit the impressions, but when conveyed to the brain centres they do not become accurately intellectualized. The derangement exists in the process of changing the transmitted physical impressions into psychical ones, hence the mental concept is imperfect or incorrect, and the illusion consists in an error of the judgment in interpreting the significance of these impressions when they reach the sensorial centres. In hallucinations the irritation and consequent mental concept are entirely subjective, but in illusions the irritations and impressions are wholly from without. Such a result might ensue from either a partial anæsthetic or hyperæsthetic condition of the psycho-physical centres of the brain; the sensations would then be diminished, heightened, or changed, resulting in imperfect and, consequently, deceptive impressions on the mind.

It is an illusion when one sees a circle of fire from the rapid revolutions of a burning stick, or hears the voices of friends from the moaning of the wind, or in the conversation of strangers.

Illusions may often relate to what may be occupying the mind of the person, or what one is very anxious about.

A patient is exceedingly desirous of seeing her husband or child, and when a stranger passes the door or residence, or enters the hall, is sure he is the one so long expected; or she hears the voices of persons in conversation in the next room, and is confident that one of the voices is that of her husband or the child she is so constantly thinking about. Again, they may arise from the revival of impressions and memory of persons received long ago. When Mrs. P. meets Mrs. S. she at once associates her with some person whom she has known years before; a possible likeness becomes an identity in the deranged brain centres.

Illusions of Sight are more frequent among the insane than those of the other organs of sense.

Mrs. B. rarely sees a person pass by the windows of her room that she does not address him as her husband or some one of her three sons, all of whom she is confident I have forbidden seeing her and confined in the basement of the Retreat. In this case the illusion has its basis in the delusion that her family, who never come to see her, are prevented doing so by being confined. This delusion has increased until it extends through and embraces the whole mental horizon, and pervades it more largely than anything else during her waking hours. Hence, the mind is always in an expectant state, so that persons, like or unlike those she thinks of, are mistaken for them.

Illusions of Hearing and Smell are of much less frequent occurrence than hallucinations of those organs.

Illusions of Visceral Sensibility are very numerous, and are often met with among the insane. They are nearly always of an unpleasant, singular, or painful character,

and may exist in the stomach, the alimentary canal, or the uterus.

O. S. believed that he had some kind of a snake in his side, which had been introduced into his stomach by drinking water from a spring on some former occasion. He could feel its movements in his right side, as if it was coiling itself about some portion of an organ within the body. After his death an examination disclosed a cirrhotic liver.

Mrs. M. has hypertrophy of the heart, attended with irregularity of action, and she is confident that the spirits of some of her departed enemies are engaged in turning the air-passages of her lungs about in such a manner that they extend from side to side instead of up and down. At other times they insert poison into her stomach, and she becomes so nauseated that she can take no food and is ready to vomit. At another time her lungs are filled with the particles of some poisonous substance, which she is confident will soon destroy her.

Derangements and morbid growths of the uterus often give rise to illusions of general sensibility, and women imagine that they are pregnant. Mrs. S., who is passing through the climacteric period, came to consult me on two occasions as to her confinement. She is very confident that such sensations as she experiences about the pelvis could come from no other cause than pregnancy.

Illusions may occur among the sane as well as insane, but with this difference. When persons in the normal condition of the psychical centres experience optical or sensational illusions, such as luminous balls passing before the eyes while they are closed, from compression of the cornea ; or experience a misinterpreted sensation of heat or cold, they are able immediately to recognize the mistake and correct the illusion.

On the other hand, when illusions occur in the insane, they are unable to correct them in consequence of a derangement affecting the psychical centres of the brain.

Illusions of sight, hearing, and general sensation are frequently present in delusional insanity, melancholia, and general paresis. Wrong, imperfect, or exaggerated interpretations are given to experiences which have but a slight foundation in fact, and give rise to delusions. The ticking of the clock on the mantel becomes converted into the voice of one speaking, to whom replies become necessary; the pain incident to an ulcerated stomach becomes the evidence of the presence there of a snake which has been swallowed on some former occasion.

Illusions of the different senses are also often present in the acute forms of alcoholic insanity, and in forms of disease other than insanity. They are generally of much less importance than hallucinations.

LECTURE III.

IMPERATIVE CONCEPTS—INSISTENT IDEAS.

CONTENTS :—Concepts—Definition of—Ætiology—Mode of Origin—Forms of Disease—Progress and Course—Illustrations—Character of Concepts—Significance of—Insistent Ideas—Formation and Progress—Characteristics—A Case of Long Standing—The Emotion of Fear—Fear of Places—Of Contamination—Of Improper Conduct, etc.—The Subjects about which they Revolve very Numerous—A Case—Characteristics as Described by Krafft-Ebing—Treatment.

Concepts, as used in the following pages, may be regarded as the simplest forms of mental action, after those of sensation and perception. They are isolated thoughts relating to things or subjects. They are limited, and constitute the elements of thought processes which enter into judging, reasoning, and the formation of designs, purposes, etc.* They become imperative when they occupy the mind for the time being and dominate its course of action.

Ætiology.—*Imperative concepts* arise from the operation of irritations, either centric or reflex, acting upon brain centres of thought which are in an abnormal physiological

* This is a more limited signification of the term concept than is in common use, where it is made equivalent to the term notion, which embraces not only the first impression of any subject or thing, but also the qualities or characteristics which pertain to it. I have, however, ventured to use the word concept rather in its etymological sense, as signifying the initiatory element of the thought process pertaining to any subject, rather than a completed notion. I know of no other term which, from its derivation, so accurately indicates the form of mental activity of which I desire to speak.

condition. The predisposing cause in some cases may be an anæmic state of the brain, and in others a neurasthenic condition or one of irritable weakness, affecting unequally the different psychical centres, whose combined and normal action is essential to healthy mentality. Heredity is also an important factor, especially when it entails a general paranoiac condition of brain. It is, however, found in experience that these concepts arise in many cases in which, apparently, neither of the above factors exist. They may arise from any cause which serves largely to increase or diminish the normal amount of the nervous energy of the system, such as shocks, profound grief, etc., and thus induce mental derangement.

Mode of Origin.—The mode of their origin appears to be similar, if not identical, with that of hallucinations, except that in the imperative concept the impression or the irritation which gave rise to it is not projected, as in the case of hallucinations, toward the sensorial centres, but rather toward the psychical and motor centres, causing intense, peculiar, or irrational manifestations of manner or conduct.

The character of concepts in relation to their physical basis depends, in the first instance, upon inheritance and educational influence; but beyond these factors they will depend upon the condition of the nerve-cells which constitute the psychical centres. This, again, will be influenced by the character of the blood supply and the evolution of nerve energy. In case the cells have been over-taxed during considerable periods, or have inherited a predisposition to instability, they become unable to recuperate and restore this expended energy during the usual periods of rest and sleep at night, and, in consequence, pass into a state of morbid weakness, irritability, and sensitiveness;

they no longer respond in a normal manner to such stimulations and impressions as are received upon them. They become easily excited, and the concept to which the stimulation has given rise is no longer under the full control of the inhibitory centres; it may be, and often is, projected into expression, even in spite of the will of the subject.

Again, the morbid character of concepts may appear in their exaggerated nature and their tendency to usurp the field of consciousness to the exclusion of others, in consequence of local congestions and an unequal distribution of nerve energy throughout the different centres of the cortex. In the healthy condition of the brain, concepts arise in some order or system; *i. e.*, they have an intimate connection with such subjects as the individual is engaged upon or has been thinking about and is directly interested in. Indeed, the more absorbing the interest, the more surely do concepts arise in direct relation to it. But in a weak or anæmic state of the brain the concept may arise suddenly without such connection and become imperative in its action; the inhibitory centres being in a partially inactive or dormant state, the movement becomes largely automatic. Imperative concepts more often pertain to matters or subjects which have little or no relation to the recent mental experiences of the individual, unless in some remote degree, and they may arise from the excitation of memories relating to experiences long passed.

Forms of Disease.—Imperative concepts are present more frequently in primary delusional insanity and melancholia, and are the initial element in the formation of insistent ideas and morbid impulses. The degree of pertinacity or persistency with which they continue to absorb and dominate the mental activities will depend upon the

extent and character of the disorder of the brain, and, to some extent, upon the length of time during which it may have existed. They also tend to become more pronounced and dominant when they arise from the primordial character of the nerve elements which has been impressed upon the cortex by inheritance and the disorders and accidents incident to infancy and early childhood.

Progress and Course.—It should be observed that these profound mental impressions may exist at times in the sane as well as in the insane brain, but in the normal condition of the brain they exercise only a limited influence. They may incite to acts and speech, but their influence is always modified by other mental concepts which are projected into the sphere of consciousness, and are under the control of the ego. With the insane their influence is so potent as to overshadow other concepts, usurp their sphere of activity, and lead to the formation of new ones, or even combinations of them. They wholly dominate the course of activities for the time being and influence the unhappy subject toward conduct of the most singular, absurd, or outrageous character. A female patient was brought to the Retreat, a few years since, who remained in a condition of apparent reverie during several days, and said very little, except in reply to questions. While in her room, one morning, she suddenly thrust her hands through several panes of glass, which caused a considerable hemorrhage, and the blood covered her hands, face, and portions of her dress. She afterward said that the impulse to put her hands through the glass arose suddenly in her mind in consequence of the constant recurrence of that passage, "*Ye have not yet resisted unto blood,*" and she adopted this means to do so.

As new areas or paths of activity in the nerve-cells become implicated in the morbid process, these imperative

concepts sometimes become harbingers of morbid impulses, especially when they arise in connection with painful sensations and a state of sadness. They may become the elements which develop into sentiments of hatred and defiance, eventuating in vicious accusations and a desire for vengeance for some fancied wrong, and in this respect lead to conduct which resembles that of a class of melancholiacs. The following case will illustrate the great suddenness with which these concepts sometimes develop, overwhelming even the consciousness for the time being and the possible consequence to which they may lead:—

E. D. has been insane for several months, and had made a number of attempts at suicide prior to his admission to the Retreat. For some weeks subsequent to the last attempt he appeared to improve, when, on one occasion, while he was standing in his room, his attendant advanced toward him with the intention of passing, when he suddenly drew back and struck him a blow which brought him to the floor. Immediately after it was over he apologized, said he was very sorry and quite ashamed of himself; he could not tell what had led him to strike, especially his attendant, with whom he was on the most pleasant relations, but the concept suddenly flashed upon and filled his mind as he saw him approach, and the impulse to strike became irresistible. Something of a similar nature occurred on at least one of the occasions when he had attempted suicide. He had been urged to go to the dining-room, where were seated several patients at the table, and went against his inclination. As he entered the room, he saw a carving knife upon the table; the thought of suicide flashed upon his mind; he seized the knife and made an attempt to cut his throat, but was prevented. As in the former experience with his attendant, when it was past, he was very sorry,

and said he did not know why he had attempted to kill himself.

In some cases the imperative concept leads to homicide as well as suicide, and in the above case there can be no doubt that if there had been a knife in the patient's hand he would have struck the attendant with it instead of his fist. When this is the case, and the suicidal or homicidal impulses arise from a brain in a condition of melancholia, they are among the most dangerous manifestations of that disorder, leading to unexpected attacks upon any person who may chance to be near at hand. The relation which the victim may sustain to the patient has no influence in restraining the act, and the dearest friend or child may be sacrificed with all the horrible atrocity which could be exhibited toward an enemy or an animal.

It is doubtless true that the quality or character of these concepts depends somewhat upon the antecedents of individual experience and discipline of brain, upon the form of disorder existing in the brain centres affected, upon the age and sex of the subjects, and, perhaps, other elements of influence. But yet, in the vast majority of insane persons, such concepts rarely eventuate in morbid impulses toward the injury of self or others. When limited, they lead generally to an exaggerated mental activity in some one direction; it may be in that of mischievous conduct, accusations, fault finding, or an endless repetition of trivial and indeterminate questions which are of little consequence. The concept fills and occupies the mind to the exclusion of others, for the time being, and leads to motor activity of a harmless, and often of an absurd, nature.

INSISTENT IDEAS.*

But these morbid concepts do not generally remain single or limited. They generally tend toward the formation of special habits of thought. The same aspects and order of thought tend ever to recur in a kind of circle, from which nothing can change them. Even in health the exercise of the several portions of the brain tends to develop a peculiar disposition toward a repetition of such action. Mr. Herbert Spencer says that, "in the exercise of brain functions, lines of least resistance are gradually formed for nervous action by the repeated flow of nervous energy in definite directions." This is the case in a condition of health,—much more so is it when portions of the brain are in a neurasthenic, or supersensitive, or paranoiac condition. When, therefore, concepts have once arisen from any subjective or objective impression in such a brain, they tend more readily to repeat themselves in these paths of activity, until the will becomes quite unable to change them, or supply their place with other concepts. Whenever the thought process begins, they thrust themselves, almost automatically, and often against the will, into the field of consciousness.

Formation and Progress.—This, however, is but the initiatory stage. The concept increases in force by repetition; additional elements are added, until they combine into insistent and systematized ideas. The mind is no longer

* I have used the term "insistent idea," as suggested by Dr. Edward Cowles, instead of "fixed idea," which has long been in use by writers. I regard it as preferable, as it more nearly describes the character of the idea we desire to study. Strictly speaking, an idea is never "fixed." Its nature appears to forbid this, but it may become "insistent," and does so whenever it persistently appears in the field of consciousness and determines the subject-matter and character of mental activity.—*American Journal of Psychology*, Vol. i, p. 222. 1888.

wholly occupied with single concepts or impressions, but rather with the repetition of a considerable number, which leads to a purpose to do or not to do certain things. It seems wrong to follow a definite course of action ; to speak certain words or sentences, or to mentally repeat them ; hence, an effort to avoid them in every conceivable (and, to a healthy mind, inconceivable) manner. Mental reservations, vows and oaths are constantly made use of ; the person cannot, or thinks that he cannot, reply to a question without first making some vow which will, according to his disordered reckoning, free him from all responsibility as to the result of his reply.

Dr. Cowles relates a case, in which the patient was unable to deliberately undertake any new act, however simple it might be, such as the buttoning or unbuttoning of his vest, without going over each step in the whole course of his mental operations which had occurred since morning. A strong effort on his part to do so would be attended with so much mental pain and anxiety as to cause perspiration to appear on his forehead, and increase the action of the heart and the frequency of respiration.

The following case will illustrate not only the absurd character, but also the persistence of these ideas even after the lapse of years. A gentleman came recently to consult me, saying that he was greatly troubled from an experience which occurred nearly fifteen years ago. He was at the time living at a hotel, and upon going to his room late one night, which he had not visited during the day, found that the furniture had been removed, and that workmen had been engaged in painting and papering the room. They had not finished, and there were standing in the room two old cider barrels, which had been used by the workmen to stand upon. After going into the room and moving about

in it, he retired to another, where he went to bed, but the thought occurred to him that while he was in the room his coat had become wet with cider which had been in those barrels. This haunted his mind for several days, but he finally succeeded in dismissing it, and had not thought of the matter until within the past two weeks. He had not been sleeping well for some months, when lying awake one night, the old idea suddenly rushed into the field of consciousness again, and he had been unable to banish it for any considerable length of time since. If, for a few minutes, he succeeded in getting his mind upon something else, he could not hold it, but he was continually haunted, day and night, with the thought that his coat had, on that night, become wet with the cider which was possibly in those barrels, and that he must have worn it in that condition for months afterward. This idea has dominated nearly the whole course of his mind, until he appears worn and haggard. He says he fully realizes its absurdity, but is helpless in his efforts to prevent its intrusion. It appears that the taste, and even the smell, of cider have been especially offensive to him since boyhood. This fact may have some influence as a factor in the case.

In other cases the sight of some particular person makes it necessary to go through the repetition of a series of oaths or vows to follow out certain courses of conduct in relation to him. This peculiar mental relation having become established toward the person, the course of conduct resolved upon must be repeated again and again, lest some injury may come to him; and if by chance any unusual experience should occur, the patient at once accuses himself of being the cause; something which it was necessary to do has been neglected, or, on the contrary, he has done something which he should not have done.

Characteristics.—The morbid quality of the idea being dependent upon an irritable or supersensitive condition of some portions of the gray matter of the brain and its tendency to repeat organized processes, patients cannot be reasoned out of them, however absurd or improbable they may be. Discussion as to their absurdity which leads to a repetition of action in those centres which are affected, has little influence except to strengthen them, and in this respect they resemble some other elements of insanity. They arise from the involuntary exercise of the mental faculties in one or more of the disordered centres of thought, the imperative concept being the initial element, and the patient being quite incapable of substituting other subjects as against the depressive sentiments and suggestions which arise. They come into consciousness unsought and, becoming subjective realities, may lead on to fully formed delusions and hallucinations, especially when the development is slow and steadily progressive. Some casual word or look from a stranger excites into activity a whole area of irritable nerve-cells and thus gives rise to erroneous inferences and beliefs. Insistent ideas are present in the forms of systematized insanity, both of the exalted and depressive types.

The following case will illustrate some phases of these peculiar ideas. The statement was written by the patient after her discharge from asylum life. She was for several years a patient in the Retreat, was then transferred to the Eastern Michigan Asylum, and remained there some six or seven years before she was finally discharged. The statement is quoted from the yearly report of the Superintendent, Dr. Henry M. Hurd: "When about twelve years of age I began to have strange fancies. On one occasion I thought the blood flowing from a cut finger would harm

those who came near me. I also had great trouble in dressing in the morning because whoever was in the direction toward which my hand pointed when I put on my sleeves would be harmed. When walking out-of-doors I would often think I must retrace my steps, then go over the same ground again. This was caused by the same idea that some one would be in danger if I did not do it. After a time the thought occurred to me that my mother spoiled my food; then I would eat nothing unless I could do so without any one knowing where I ate. At last I feared to remain in the same room with my parents or sisters, or to allow them to know where I was. At night I would fasten the doors of my room on the inside, and then remove the bedding from the bedstead and place it on the floor in another part of the room and sleep there. I never feared little children, but was pleased to have them near me. The last named delusion I was not wholly relieved from until I was removed from home to a place where I was controlled, and, indeed, it was many years before I was entirely relieved from it. Before it was quite gone, the fear that I might come in contact with some contagious disease, and thus communicate it to others, took possession of my mind and dominated my conduct for many years."

It will be noticed that this description of her morbid ideas by the patient extended over a period of several years, and that the character of the idea changed from one period to another, and at times was much more vivid than at others. The emotion of fear, evoked in the first instance from the imperative concept, appears to have been the foundation of her peculiar mental state. This is very common with persons whose minds are so affected, and the conduct to which she referred was an effort she was constantly making to cleanse her hands and her person. At

times no one of the physicians of the Retreat, or any visitor or stranger, could pass through the hall where she was, and approach near to where she might be, that she would not immediately repair to the lavatory, and spend hours, if permitted, with soap and towels in an effort to remove any particles of possible contagion which might have passed to her hands from the visitors, and which she would afterward be in danger of communicating to others. Her intelligence appeared to remain quite intact, and she would occupy a portion of every day in reading. When reasoned with as to the absurdity of the idea of contagion, she would at once admit all that was said, but declare that she was unable to banish it from her mind or to refrain from an effort to avert the consequences to others.

The emotion of fear, which in many cases depends upon an anæmic and imperfectly nourished condition of the cortex, appears to be the most common one which we meet with in this class of ideas, and may assume many forms or characters. The fear of certain places or situations is frequently described by writers, and special names have been coined to designate them, such as *claustrophobia*, *agoraphobia*, etc. A patient was for several years in the Retreat who, during long periods, was unable to retire to his room, either at night or in the daytime, without an effort to brace up the wall of his room with his back, lest it should fall and injure him, and, if permitted, would stand at times by the hour, with the most intense fear depicted upon his countenance, and with forehead covered with perspiration. The idea in his case, as also in that of the former one, seemed to approach the character of a true morbid delusion, but with this difference that it was inconstant; it did not remain in consciousness or apparently exist there, except as it was evoked by his passing into his room. It did not

become more than an idea; and the intelligence as to its absurdity was never impaired, though the capacity to banish the idea from the mind appeared to be wholly in abeyance.

In nearly every asylum for the insane there are found cases in which the idea is limited to mere defilement. The sight of the hands or face, or any concept in regard to them, at once excites the idea that they are not perfectly clean, and that this is apparent to every one who is present. Hence they are all the while at the basin for the purpose of removing the imaginary dirt from the hands or face.

There is no idea of contagion in these cases, as in the one described above.

Ball* indicates not less than six forms which these insistent ideas and resultant delusions may assume, in his chapter on *Folie du Doute* :—

1. **Les Metaphysicians.**—Comprising those cases in which the patient is constantly seeking explanations in relation to questions which cannot be solved, such as the creation of Deity, or the origin of creation, etc. The more difficult of solution the problem may appear to be, the more intense the interest, and the tenacity with which the mind is occupied with it.

2. **Les Realistes.**—Comprising those cases in which the patient is occupied with questions of the most insignificant and trivial character.

3. **Les Timores.**—Who are in constant fear lest they shall do, or fail to do, some act, which in itself is of little consequence any way. They must act up to the very letter of some rule which they have prescribed for themselves, and, if they have failed in so doing, they must go over the

* Ball, "Leçons sur les Maladies Mentales," pp. 494, *et seq.*

process again and again until the very letter is fulfilled, lest some harm should come to themselves or others.

4. **Les Compteurs.**—Who are constantly occupied in some form of calculation, such as the enumeration of objects they may have passed while on the streets, or the number of volumes contained in some library which they may have visited long before, or the number of persons who may have passed a certain house on the street.

5. **Les Scrupuleux.**—Who pass their whole time when not asleep in the incessant fear of having spoken in a manner which was not perfectly true or accurate, or having harbored an evil thought against God, or some friend, on a former occasion.

6. **Les Malades Atteints de Delire du Toucher.**—This class comprises those who are constantly in fear lest they have been contaminated by the touch of some unhealthy person or unclean object. They spend hours daily in the lavatory in vain and useless washings, to cleanse from imaginary dust, or some bacterian germs of disease.

Besides the above, there are innumerable other forms which these insistent ideas may assume, and which admit of no classification. Individuals sometimes come to doubt their own existence and that of the universe about them. They have the idea that all is one vast hallucination or delusion, and they dare not move lest there be nothing on which to place their feet.

It will, however, be observed that the above are not different forms of mental activities, but simply different subjects about which the insistent ideas revolve; and they will depend, to some extent at least, upon the antecedents of the individual as to education, environment, and sex. While the female mind may become absorbed by the fear of contamination, or of doing or of having done some-

thing which should not have been done, yet it rarely or never becomes morbidly absorbed and dominated by questions relating to the method of the existence of the Deity, or by the methods by which the universe was brought into existence.

The various subjects about which insistent ideas may revolve will be of importance chiefly as they pass over into systematized delusions, and the individuals become no longer able to modify or conceal them, and are led by them to commit imperative acts. Such patients may then be considered as in the genus of primary delusional insanity.

The quibbles, contradictions, metaphysical tergiversations and delusions which these dominant concepts, and the resultant insistent ideas lead to, are sometimes almost incredibly absurd and endless in variety. The following case that was in the Retreat several years ago will further illustrate these peculiarities.

The patient, the son of highly intellectual parents, while reading in the Bible one day that portion which forbids the use of the blood of animals as food, became suddenly dominated with the idea that this command applied to him in all its original force, therefore he ought not to use any form of food in which blood existed, or of which it formed any part. But as the blood was the formative element of flesh of all kinds, the flesh itself must contain more or less of blood, therefore it was wrong to use any kind of meat. His idea was humored by his parents, and he was permitted to have all the eggs and milk that he could use. But the insistent idea remained and increased. He soon reasoned that as all the blood and flesh of fowls and animals must come from the egg, therefore it also contained the element of blood, and he was disobeying the command just as clearly in the use of eggs as food, as in

that of meat itself. Eggs were then discarded, and he confined himself for a few days to a milk diet. But he soon began to argue that as milk was formed in a manner somewhat analogous to that of blood, and as some cows at times give milk containing blood, there could be little doubt that in most quantities furnished by farmers there existed blood to some extent, or at least the elements of blood, and it was a violation of the command to use milk as an article of diet. He soon, therefore, discarded it, and determined to confine himself to a purely vegetable diet. He used for a short time oat meal and cracked wheat as being articles more likely to be pure. He, however, soon began to inquire as to the methods in which these articles were cooked, and unless the vessels used were new ones, and had never been used for any other purpose whatever, he would not touch the meal which had been prepared in them, lest there might have remained about them some blood-element, which had not been removed in cleansing them, and which had contaminated the food. New cooking vessels were obtained, and every means adopted to demonstrate that there was no possibility of there having been any blood in or about them. Yet it was but a short time before he came to the conclusion that it was wrong to use wheat or grain of any kind, without reference to the manner in which it was prepared, because in its growth it might have derived some element of blood from the ground, which had formerly fallen upon it and become absorbed by it. He was then brought to the Retreat, and a reasonable quantity of beef extract was soon afterward introduced into the stomach. He did not feel very badly about this, as it was administered against his will and earnest protest, and therefore he was free from all responsibility. In-

deed, I think he was really glad to have it administered, notwithstanding his protestations to the contrary.

It was observed in the above case that, in proportion as the system became weaker from insufficient nourishment, the more insistent and persistent was the idea; and, on the other hand, as the system became stronger from the forced alimentation, the domination of the idea became less, until it finally died away for the time being.*

Treatment.—The treatment of such cases will necessarily depend upon the physiological condition of the system which may exist at the time being. When the system is well nourished and the abnormal mental state arises from hyperæsthesia of the brain-centres of thought, the bromides of sodium and ammonium, either single or combined with

* Krafft-Ebing mentions the following characteristics peculiar to this form of mental activity:—

1st. The original morbid psychical excitability, because of which certain even futile exterior impressions leave a deep and lasting trace.

2d. The exaltations of the fancy, by reason of which the images and ideas persist with morbid tenacity in the field of consciousness.

3d. The increased activity of the association of ideas, from which the most distant relations immediately recall the morbid ones.

4th. The enfeeblement of volitive energy.

5th. The spontaneous organic origin of the ideas themselves, which come forth as if projected from the bottom of the unconscious.

6th. The coincidence of their first appearance with somatic disturbances or causes (menstruation, pregnancy, the puerperal state, self abuse, protracted vigils, neuralgias), or with psychical causes (mental sufferings, misfortunes, etc.), causes all, and always, of neurasthenic action; observing, however, that it is some exterior event that furnishes the point of departure and the occasional momentum of the anomalous ideation.

Krafft-Ebing concludes that, from the spontaneous and organic mode in which the fixed constrained ideas arise in the mind, they constitute the most clear demonstration of the mechanism of unconscious psychical life.—“*The Alienist and Neurologist*,” vol. v, p. 76.

cannabis indica, may prove a most valuable remedy. But in the majority of cases which have come under my observation, it has appeared to depend upon an imperfectly nourished and partially anæmic state of the brain. In such cases a generous diet of highly nutritious food is essential. This, with a large amount of moderate exercise in the open air, with the society of a judicious friend or attendant, and supplemented with firm moral management, will be a prime necessity.

I must now refer to the **moral management** of such cases, which is of the highest importance. While a decided firmness is generally necessary, it should never be assumed that patients can fully modify and change their conduct at will, however absurd it may have become, or however capable they may appear of being able to do so. The difficulty experienced in passing from one line of conduct to another, or in advancing from one part of an action to the next in order, or, again, from one subject of reflection to another, is a profound one, and due to a morbid condition of the brain-centres. They cannot, therefore, be overcome by ridicule, or by insisting that they are merely imaginary difficulties. But firmness combined with large sympathy may be of assistance, and it will be better to assume that what is done is with the entire concurrence, if not at the request and with the approval of the patient himself.

If the difficulty relates to the doing or not doing of something, such as the putting on or off a garment, or the going from one place to another, or the taking of food, it will be better to assume that the patient desires assistance, and proceed to give it; or endeavor to divert his attention to something else for the time being rather than to insist upon his immediately doing the required act. If it refer to proceeding from one step in a mental process to another, he

may often be aided by the suggestion of some intermediate steps in the process, or by the introduction of another subject quite foreign to that under consideration, and by leading the mind away from that in which the difficulty of transition has occurred. After the mind has thus become interested and changed in its current of thought and effort, it may again be led back to and pass on in its consideration of the former subject from a new point of view, and without difficulty. A frequent repetition of such a proceeding has sometimes proved of service in strengthening the control of mental operations, and in enabling the unhappy patient to govern his conduct. Such suggestions, however, will more generally prove to be merely aids in making life less unhappy for the patient, and more effective means will become necessary.

One of these is **regularity in physical exercise**. I do not now refer to the exercise which may be obtained by walking, which is largely automatic and does not require much attention, though this may be important in its way, but more particularly to the exercise of special muscles and groups of muscles of the various portions of the body, by means of calisthenic and gymnastic practice. In nearly all patients whose minds are largely occupied with and controlled by imperative concepts and insistent ideas, it will be found that little or no mental effort has been made for weeks or months outside of their subjective reveries and morbid tendencies. In consequence, the associating fibres which lead from the sensorial centres to the cortex, and which are essential to the normal discharge of the thought function when connected with any plan or subject which has been projected outside itself, have been left largely or wholly in a state of inactivity. Therefore the nervous energy of the system which passes to these elements of the brain, when in

a state of healthy activity, is turned to other portions of the system. The blood-supply of these parts, which is also essential to the discharge of the usual amount of physiological functions, has become greatly lessened. In short, the same law holds true in reference to elements and areas of the brain which pertains to those of any other portion of the system, viz., that when an organ or element ceases to functionate, or largely diminishes its usual amount of function, it speedily tends to become weaker, and after a longer or shorter time becomes incapable of use.

In seeking to restore the mind to its normal action, it will, therefore, be of the first importance to improve the circulation in the regions of these associated fibres and tracts of the brain, and also to increase the nerve energy to a normal standard. Now one of the most effectual means of securing this is by bringing into increased activity the various muscles of the trunk and extremities. Exercise of almost any portion of the muscular system is attended with an increase of heart action, and consequent movement of blood, not only toward the parts more immediately concerned in the special action, but also toward the brain centres. The increased blood supply tends to enrich these nerve elements and restore the flow of nervous energy to them, and thus the two primary conditions for improvement are supplied.

Moreover, exercise in the way of muscular movement in various directions tends to interest and engage the attention, though the patient may not fully realize this himself. Indeed, it will often prove quite impracticable for one to remain in a class of six or ten persons, and observe the various movements of the bodies and extremities, which should always be timed to the music of some instrument, and not have the attention roused and the curiosity excited.

In the majority of the class of patients now under consideration, the brain centres have not become so insensible to external stimuli that they will not respond. When witnessing almost any kind of symmetrical movement accompanying the sound of music, there exists in nearly all persons a strong tendency to join in the movement, and they find it difficult not to beat time automatically with foot or hand when merely listening to music.

Now I suggest that this tendency which exists in nearly every one to join in the movements of time and music be made use of with the class of patients I have been considering, as one of the most effectual means of rousing the brain centres to a larger measure of healthy activity. A few movements for a short time at first, and slowly increased as to variety and length of time, will soon increase the power of attention, which is the most essential point. This gained, other and more diversified forms of activity will lead to further increase of mental power.

These suggestions are in accordance with what has been found to be true of the brains of many of the chronic insane, which have remained in a semi-dormant condition for a long time. By means of associated labor they have been enabled to hold the attention for longer periods upon work, and mental operations have been improved. Practically there will be found almost no difficulty in influencing a large per cent. of chronic patients to join with others in any form of work they may be capable of doing, simply by placing them in the company of others who are so engaged.

The patient who will continuously and persistently refuse to join with others when engaged in some form of physical exercise or occupation, and at the same time remain with several others so employed, and with whom he is accustomed to associate, is the exception.

LECTURE IV.

DELUSIONS.

Beliefs Dependent upon Education—Definition of Insane Delusion—Ætiology—Diminution or Excess of Nerve Energy—Thought Elements of Dreams—The Character of Delusions Dependent on—Cases—May be either Expansive or Depressive in Character—May be Transient and Imperfectly Organized or Enduring and Quite Fully Organized—Illustrative Cases—Other Elements of Insanity—Excitement—Depression—Incoherence—Excess and Defect in Inhibition—Impairment of Memory and Will Power.

Delusions are False Beliefs. Hallucinations are false perceptions. The first pertain to and grow out of the psychical functions of the brain; the second depend upon the sensorial and psychical; both may, and sometimes do, exist in cases of sanity. Additional descriptive elements of definition therefore become necessary in order to properly differentiate an *insane delusion*.

First, it is important to distinguish between merely superstitious beliefs and insane delusions. There are few beliefs so absurd that they may not find lodgment in the brains of the ignorant, especially if they are regarded as having a religious character. Multitudes are yearly found who readily embrace ideas and beliefs which appear to be unsupported by evidence to ordinary minds, and evince the sincerity of their convictions by renouncing former modes of life, leaving family and friends for new homes and untried experiences. An announcement is made that an angel has been seen by a child in some locality, and thou-

sands flock together from long distances to see the place where the heavenly vision is said to have appeared.

The mother in India believes it to be her duty to throw her newly-born babe into the Ganges, that she may perform a service acceptable to the gods which she worships. During the 16th and 17th centuries the belief in witches was very prevalent throughout Europe and to some extent in America. It is probable that many thousands were put to death in consequence of this belief, which had little other basis than a disordered motor activity in some cases and ignorance in others, and yet those in authority thought they were doing God service.

As the character of beliefs depends largely upon the state of civilization and the quality of education existing in any society, it would be difficult to name one which would, under all conditions, be distinctly an insane delusion, or an act growing out of such belief which would in all cases be regarded as an insane act. In determining whether false beliefs are insane delusions, therefore, it is essential to consider them in their relation to the antecedents of the individual professing them, the conditions of society in which he lives, and the degree of civilization with which he has been surrounded. A delusion, or an act growing out of it, might be an almost certain indication of insanity in one person, while in another it would have no such decisive indication.

Again, beliefs in a state of health, whether delusions or not, usually arise from impressions acting upon the brain from without; on the other hand, an insane delusion always arises from within, that is, from the operation of disordered brain centres. Persons are rarely argued into insane delusions, or out of them; they arise in consequence of a deranged psychical activity, and cease to exist only when this becomes changed or passes into a normal condition.

The peculiarity, absurdity, or falsity of any belief, therefore, is not necessarily a test of its nature. This must be determined by a careful study of, first, the person's past mental character and those influences which have been in operation to affect it, and, second, the method of its formation and advent.

Definition 1: Insane delusion may be defined as a belief in that which has no foundation in fact, is at variance with the person's past mental history, and of the falsity of which he cannot be permanently convinced by any kind of evidence.

Definition 2: "Insane delusion is a belief in something that would be incredible to sane people of the same class, education, or race as the person who expresses it, this resulting from diseased working of the brain convolutions." (Clouston.)

Many persons have delusions who are not insane, and conversely, some insane persons do not have delusions. Nevertheless, it is true that the majority of the insane have delusions during some period of the disease. So generally is this the case that they become one of the most important elements of insanity.

Still, it should be borne in mind that delusions do not constitute insanity, nor, *vice versa*, is insanity delusion.

Any special delusion which may arise in the brain hemispheres constitutes simply an evidence, so far as it goes, of a disordered process of cerebration. This disordered process may or may not ultimately eventuate in numerous delusions, or in some or all of the other mental processes to which allusion has been made on previous pages as constituting elements of insanity. The essential fact to be realized is that the brain is disordered in its process of functioning, and that the delusion may be merely a symptom of this fact.

Method of Evolution.—Delusions of the insane not unfrequently arise from illusions. A person sees some one passing the door or window, and mistakes him for a friend. From this illusion arises the idea that the friend has come for him, and is desirous of removing him to his home; and when the expected friend fails to appear, he begins to accuse the physician of preventing him from so doing; he believes his friend is waiting outside, or that he has been shut up in some room of the institution to prevent him from carrying out his purpose. This idea, combining with others which may be suggested by conditions or occurrences, the cause of which he does not fully understand, or which arises from reflection upon what he has observed, grows into a settled belief or delusion which remains for a longer or shorter time, and no argument can convince the patient of his error. Or again, a patient may mistake some one passing by for an enemy whom he has formerly known, and conceive that he is looking about the institution for the purpose of arresting him and removing him to jail. The idea once having found lodgment in the disordered or supersensitive brain cortex, is strengthened by every unexplained occurrence which comes under observation, until it becomes a settled delusion so strong that he refuses to leave his room or the hall, will not go out of doors, asks if the windows are all secure, and begs never to be left alone lest he should be spirited away.

In like manner delusions sometimes arise from hallucinations.

Miss N. has heard a voice which seems to her to come from outside the building nearly every night during several months. At times it is the voice of a female, at others of a male, and again there are two voices. She hears this voice distinctly, which tells her that its subject is there for

the special purpose of keeping her awake and annoying her; it also says that it intends to continue this annoyance until it drives her away from the institution; that no one can prevent this proceeding, as the person is fully informed beforehand when any one is coming to interfere. This hallucination, with little variation, has existed for a long time and has given rise to the delusion that Miss N. has an enemy, or enemies, who live in the institution and who are determined to drive her away, and she begs to be privately sent away that she may avoid their further attentions. No argument or demonstration of the impossibility of there being any persons who talk in this manner to her, or who are her enemies, has the slightest effect in convincing her of the falsity of the belief.

There exists no question that insane delusions always arise from the disordered activity of the brain hemispheres. It may not be easy to demonstrate in what this disordered activity consists, but we must conclude that, as the co-operation of the several elements comprising the psychical centres constitutes the physiological activity which exists in normal mental action, any failure in this co-operation would necessarily produce a diminished and deficient result. The conditions which would preclude the perfect union of activities in the process, we may fairly infer, would be of two kinds: First, a semi-paralysis of certain nerve-cells, or centres of mental action, in consequence of deficient nerve energy. This may be the result of diminished nutrition, imperfect assimilation, loss of sleep, excess of functional action long continued, combined with the toxic influence of waste products which have not been eliminated from the system. And, second, from an excess of functional discharge caused by a state of hyperæmia of the organs. In the one case there would ensue a deficiency of local function, and in

the other an excess of it in some of the centres concerned, and with abnormal or imperfect activity.

The **subject-matter** of insane delusions is modified by and partakes of the stored-up memories or recorded effects of the past experiences of the individual. The revival of these memories or recorded experiences through the morbid activity of the brain-centres does not produce the normal reaction; they do not perfectly combine into a whole, and the mental picture is blurred and distorted; its lights and shadows are not properly blended; the combinations of thoughts and ideas are partial and one-sided; some have too much and some too little influence. Simple concepts may be accurate enough; ideas when taken by themselves may be true, but when these are all united into a whole for the purpose of establishing beliefs and conclusions or motives of action, the union is imperfect, and consequently abnormal results in the mind follow, in the way of delusions, which continue for longer or shorter periods, according to the intensity of the morbid excitement.

At other times the concepts and ideas which go to the formation of a conclusion may themselves in some degree be defective and partial, and in consequence of this imperfection exercise either too much or too little influence in their respective spheres in forming a whole. In this respect they may be regarded as in some measure like those which arise in the brain during dreams. It is extremely rare that the thought-elements of a dream are entire; indeed, they are nearly always imperfect, broken, disjointed, and non-sequential, and hence do not harmonize one with another and produce a conclusion which is symmetrical, and such as would be produced in a fully-conscious state of the brain. This is so nearly always the case in dreams that the

mind has a kind of semi-conscious realization of its being so during their progress.

Another illustration may indicate the character of the initial mental movements that are like those which lead on to the formation of insane delusions in a disordered brain.

Almost every one is familiar with the exaggerated character of thought which appears in the field of consciousness when one awakes in the night from a sound sleep, and while the brain is in a partially anæmic condition. When persons are light sleepers, oftentimes they do not readily fall asleep again, and find it quite impossible to do so for a considerable period of time. The thoughts, however, which occupy the attention are rarely of good quality, and it is seldom the case that the concepts which may pass through the mind in relation to any subject will result in a conclusion which will be satisfactory to the person after another sleep has occurred, and he has broken his fast and resumed the duties of the day. When the course of thought is again recalled, while the brain is in its full state of activity, and with its usual supply of blood, it is perceived to have been imperfect—exaggerated in some parts and defective in other parts, and that any conclusion drawn from it would, so far forth, be inconsequential, and thus resemble the first steps toward the formation of an insane delusion.

The character of delusions will, therefore depend, to some extent at least, upon the past experiences of the individual, and upon the local centres of the brain which for the time being are most active. The prevailing emotional state of the mind for the time being, also largely influences the character of delusive beliefs. When the mind is strongly under the influence of emotion, the fact that a belief harmonizes with that emotion is sufficient to

commend it. For instance, the melancholiac who believes he has committed the unpardonable sin, is not depressed because of his belief, but has the belief in consequence of his emotional depression.

It may appear somewhat singular that a deficiency in certain experiences which usually affect the emotional nature, should in any measure qualify or determine the character of delusions. Yet this will be found especially true in reference to the less permanent delusions of a religious nature. Many persons whose lives have been conspicuous for the absence of religious observances while in a state of health, yet when affected with melancholia and left to long periods of comparative isolation, have delusions which pertain almost exclusively to the subject, and are colored by this very failure of experience. Possibly they rise into activity from an hereditary influence transmitted by some God-fearing ancestor of a former generation. Delusions may refer to experiences as various as those of the history of the subject, and relate to affairs domestic, business, religious, or political.

The following case is a good example of clearly defined delusions, which appeared to form very suddenly in an excited state of the brain and which continued during several days. The person, who had not been regarded by his friends as "really insane," but "simply eccentric," went to New York, where he became considerably excited, and after two or three days to Brooklyn, where he had formerly resided. His brother, who had become anxious because he had not returned, went down to ascertain the cause of his absence. The following is the patient's account of what transpired after his brother found him: He says: "I was crossing the street at about eight o'clock in the morning, and heard some one shouting 'Ed! Ed!' and sure enough

up came Joe, out of breath and with eyes as large as a saucer. I saw in a minute that he was a lunatic. He began to say that we must go over to New York and take the first train for Hartford. I fell in with his whim, but told him that there was no hurry, as the train did not leave on Sunday until 4.30 in the afternoon; but Joe would not be satisfied until I agreed to go, which I rather reluctantly did, as I had an engagement to play the violin in Henry Ward Beecher's church that morning. * * * I finally got him home, and in order to get him to sleep told him I was bound to go to sleep and he must do the same. I laid down and pretended to sleep until I thought he was asleep, and then I got up and went down to a drug store to get some atropine to counteract the effect of the belladonna I had taken with some beer, and just as I was ringing the night-bell, I looked around and there was Joe in the street. I at once gave up the atropine business, seeing how badly Joe looked, and told him that we must at once go to the police station. He said that we should not find any one there, but I insisted that we should, and there we went. I gave the policeman the wink about Joe, and he took in the situation at once and went right along with me to get Joe home. We had no trouble after that, but I tell you that I had to play sharp to get the whole thing through and not have him suspect me. I intended to get him home and have the policeman get him off quietly to the Retreat, but he said he was sleepy, and so I told him to go to bed and I would do so. I kept the policeman with me and sent Joe away to bed. I did not sleep much, however, but in the morning who should come in but Dr. ——— and another policeman, and they proposed to take a ride. I thought it would be just the way to get Joe to the Retreat, and so agreed; but at the last moment he backed out and they

drove away, saying they wanted me to see Dr. ———, and here I am. Well, they will have to pay the costs. I have lost \$5000 by this operation, and ought this minute to be in New York on my secret detective business." The next day after his admission his brother called at the Retreat, but did not see the patient, who, however, saw him from a window as he was leaving and exclaimed, "There goes my poor brother; he is as crazy as a bed-bug. I must send some one at once to the office to tell them to change the combination on the safe or he will steal all the assets."

Delusions may be either *expansive* or *depressive* in character, according to the form of disease existing, and generally bear a relation either directly or indirectly to the individual himself. And finally, delusions may be *transient* and *imperfectly formed*, or *persistent* and *fully organized*. In the study of them, as exhibited in the wards of a hospital, we are impressed, first, by their character in relation to *depression* and *exaltation*.

Miss G. remembers that she neglected the discharge of a duty in speaking to one of her friends years ago in relation to religion; the thought becomes a dominant one in the supersensitive condition of the psychical centres of the brain, and is constantly thrusting itself into the sphere of her conscious mental activity until it expands into a delusion. The imagined neglect of duty becomes a great crime for which she must be punished during eternal ages, and she persists in the constant iteration of the danger she is in day and night. Not long since she had the delusion that she had been the cause of permanent injury to the health of her little nephew, of whom she had had the care, because she had done, or failed to do, some trifling thing which was not of the least importance, and that there was no possibility of his ever being well again.

Mrs. C., who has been a most devoted and affectionate mother and wife, is now a melancholiac. During the process of an almost constant introspection which has been going on, she has recalled some hastily spoken word, or an exhibition of temper on some former occasion; this occurrence has been turned over and over in the circle of her mental activities until it has given rise to the delusion that she has been so sinful and worthless that not only her husband, but her children hate her, and are conspiring to put her to death. In her disordered view, this is just and right so far as they are concerned, for she deserves nothing better at their hands. But she has no hope, either in this or the next world, and is too guilty a wretch to be thus summarily called to account. All assertions to the contrary are as idle words, while assurances of sympathy and anxiety for her recovery and happiness only add poignancy to her sufferings, while she still persists that she is unworthy of anything but hatred from her family.

Mr. C. had experienced some unusual sensations about the abdomen, and he is confident that his bowels will never move again. He now refuses to take food because it will never pass from his system, and there will result an accumulation in the alimentary canal, until that will burst, to the horrible detriment of every one who may be near him at the time.

Mr. B., who spent all his own property, and all belonging to his relations, which he could get hold of to spend before coming to the Retreat, and now has not got a sixpence to his pocket, says he is going to cover the corners of certain streets, which were formerly owned by his grandfather, with elegant blocks of brick and stone; that he will fill the rooms from cellar to garret with shelves, and the shelves with the most costly books; that it shall be a free library—

free to everybody who may desire to read the books or lounge on the chairs and sofas he is to place for them. Only two days ago he was going to buy up all the watches, jewelry, and diamonds which were to be found in the stores, and stock a first-class establishment which would be a credit to the city and himself, and where everybody, however large his wants, could be supplied on the most liberal terms. To-morrow, or it may be next week, some new concept will enter the sphere of his mental vision. It will widen and deepen until a new delusion is formed which he will detail with more or less particularity. The old one will fade out and be forgotten, and when reminded of it, very likely he will look with suspicion or surprise, and declare that he never had such a belief.

The delusions of the first two of these patients take their character from the form of disease existing, viz., acute melancholia, and will fade away as will also others of a similar nature as they may arise, until improvement or recovery of the person. The delusions of the fourth patient described, though transient, yet are of the utmost importance, as they indicate a form of disease of an opposite type, and one from which persons do not recover, viz., general paresis. The latter portion of this statement, however, should be qualified by adding that, though this delusion may indicate a special genus of insanity, and actually existed in a patient affected with that form of insanity, it would be a mistake to base a diagnosis simply upon the exalted character of the delusion. Delusions of a similar character may arise from the functional activity of disordered minds, which are classed under other genera of insanity. The form of the delusion, therefore, in respect of diagnosis is of little value, except it be studied in connection with other symptoms which may be present.

But in the further study of delusions we find those which

have become quite *fully organized* in the mind, even to the minutest detail. The patient delights to explain and to defend their truth, however improbable they may be, and, indeed, the more improbable or impossible they may be, the more ready and persistent is the subject with an ingenious if not plausible explanation.

Miss L. informs whatever physician she may be introduced to that she is married and is the mother of two children, from whom she is now separated, and always has been since their birth. One of them was born prior to her admission to the asylum, and the other since she has been an inmate. When questioned as to the circumstances attending the birth of the one in the institution, and how such an occurrence would be possible without the knowledge of any one about the ward, she replies that her husband, who is a physician, comes to the institution unannounced and without the knowledge of the physician in charge, and even before he enters the building, places her in a mesmerized condition, thus rendering her helpless. Then, through the influence of the wonderful mesmeric power which he possesses he is able to enter, pass through the halls and enter her room, notwithstanding she has locked and bolted the door and placed her trunk and two chairs against it. This he has done again and again, and when the time for her confinement arrived, he delivered her of the child and departed with it before she awoke, and he has never so much as written to her whether it was boy or girl, nor even its name. She regards it as an outrage that she is not permitted to leave the institution at once and assume the care of her two children, the first one of which was born in a similar manner before she came to the institution. She furthermore says that she was married to this man while in the same mesmeric state, and has never

seen him at all when in a waking condition ; that, in fact, he is a very mean and contemptible fellow to use her as he does, never once meeting her in a frank, cordial way. He always sneaks into her room at night by means of his mesmeric power and uses her person for his gratification, while she is utterly helpless by reason of the condition in which he places her, and then he sneaks off, leaving the door bolted and barred as if he had not been there at all. The difficulties attending any such marvelous proceedings all vanish in her mind at once before her explanation of the mesmeric influence this mysterious husband is able to exercise.

This delusion has existed with very little variation for nearly two years, and yet the patient not only writes articles for the newspapers, but prepared an interesting and acceptable lecture which she delivered before an audience of two or three hundred persons. The fact of its long continuance clearly outlined in the mind without essential change of character, and with only slight modifications in some of its details, which tend to enlarge and perfect it, together with the fact that it has not been attended with symptoms of dementia, indicate that it is peculiar to Primary Delusional Insanity. One more illustration of the systematized form of delusion will suffice —

Miss F., after an introduction and a few minutes of conversation, proceeds to state that she is the daughter of one of the Earls of England. It is the old story, viz., that when she was only a few days old, her nurse was visited by another woman with a little babe of her own age, and when an opportunity occurred the strange woman changed the children, and thus she was carried away, and finally came to this country, where she has been ever since. She now says she has very gradually come into possession of the

true state of affairs, but did not fully understand all the particulars until since she came to live in the asylum. She is under the impression that her reported mother informed her of some of the details while she was yet a child, and it is only since she has been here, and had opportunity and leisure to reflect and recall what was told her so long ago, that the whole truth has finally dawned upon her mind. She now has no doubt that, in process of time, she will return to her native country and be restored to her rightful position as the daughter of her true father, the Earl, and she has been informed that a plan is already in progress to consummate this most happy issue of her unfortunate experience.

The important distinction, then, in reference to insane delusions relates to their character in two respects. In the one case they are **transient and imperfectly organized**, and in the others they are **enduring and quite fully organized**. In the one case they exist in the acute forms of insanity, and not infrequently change, and in the other they are found in the chronic forms, more rarely change, and are valuable aids in forming a prognosis.

In both classes they may be of an *exalted* or *depressive* character, according to the form of disease in which they appear, and in the latter class the delusion may change from a depressive type into an expansive one, and *vice versa*, though much less frequently. Again, in both forms the delusion may relate to subjects of the most diverse and various character, which will depend, to some extent, upon the past history of the brain in reference to discipline and occupation.

Delusions of an expansive character in primary delusional insanity may exist for years, and yet the mind retain a large measure of activity and intelligence, while

delusions of importance and grandeur may exist in cases of hopeless dementia.

The following case, which was seen by me in consultation, and the statement of which the patient himself prepared at my request, will illustrate the elements of insanity we have now studied:—

“Sunday night, June 10, 1888. On this particular day I ate a usual Sunday dinner at about 2 P. M., among other things some lobster, and drank a glass of milk ; was a little skeptical of the result at the time, as I had heard so much about people being made sick by the combination, but no trouble of that kind came of it. After dinner set down in my room, smoked, and read until I got sleepy. I then—although I feared that it might interfere with my sleep at night—laid down and went to sleep, from which I did not fully awaken until after seven o'clock. I then started out and took a leisurely walk, lasting about an hour ; returning, I spoke to the family about a craving I was having lately for milk, and expressed a wish that I could get a glass of skim milk in the evening. Mrs. T. said I could have it, and insisted then and there upon getting a glass for me, which I drank and then went to my room, smoked a cigar, and read until ten o'clock, or after, when I retired, and experienced, as I feared I should, difficulty in getting to sleep. Eleven o'clock passed and the electric light was put out, making my room from semi-darkness to pitch black. How much longer passed I could not tell, as I had fallen asleep, when my senses were suddenly awakened by hearing T.'s voice, in the hall at my chamber door, just at the head of the bed, say in a sharp voice,* ‘Stop popping beans at me ; I am no bean pole. Bo—bo.’

* This may seem an unusual expression, but it is characteristic of the man.

"Then commenced a struggle. I can hardly describe the sensations. In fact, I hardly know what they were. It was not a smothering sensation; I was held in a power, and the strength to throw it off was terrible, some part of which I was conscious of, and at other times—at short intervals—was evidently unconscious. In the last effort of the struggle I set bolt upright in the bed, and struck out with all my force, at what I could not tell, and then fell back, evidently unconscious, for how long I could not tell, but it must have been for only a short time, when I came to without further struggle and became wide awake. Then I remembered that when I was sitting up in bed the room was light with a subdued light. I lay very quiet for a time, listening very intently for any unusual noise and trying to account for the light, etc. With the exception of an occasional creak or snap in the floors, the location of which I could not place, heard nothing further. I then got up and made an examination of the windows and door, but found them as I had left them upon retiring. Went back to bed, and with the exception of an 'ahem' from Eva nothing further occurred, and I soon went to sleep again.

"At one time when I was stopping at the Metropolitan Hotel in New York I had a struggle of this kind. It seemed that during the struggle and in my semi-unconscious state, that I could outline some one part way through the transom over the door with a long stick having a sponge attached to the end of it, and just as I came out of the struggle I heard a noise just outside the door as of some one dropping down to the floor and making rapidly away.

"Since the above date have kept my door locked at night.

"October 7th. An attempt made again. This time I was awake. The effort must have been made with an atomizer through a crack in the door. First heard click of key in sitting-room door, then a step leading back to chamber door, and soon after realized I was being operated upon.

"First appeared on that day with diamond stud.

"Wednesday, December 5th. Was waked up in the night. Soon after heard a slight noise at my sitting-room door, which was followed in a few minutes by the old sensation of unconsciousness creeping over me, but fought against it without stirring. Distinctly felt atoms falling upon my face; made an effort to throw it off for the time being, but I soon felt it coming on again, which was more than I could stand, and suddenly threw myself up in bed, thinking, perhaps, that some one was in the room; but it came from over the door. Not disturbed further through the night.

"Thursday, December 6th. Last night took precautions by fastening comfortable up in front of the door, back of head of the bed. Was awake again in the after part of the night, when I was startled by hearing a sissing noise at the top of the door, such as water forced through a syringe and coming in contact with a suspended cloth at close quarters would make. All was quiet for a while, during which time I heard the Methodist clock strike three. For the next hour and a half I lay perfectly still, during which time there were noises in the hall at my sitting-room door, and apparently in my sitting-room, but could not distinguish any in my bedroom further than the door, and could not make sure of my man. My nerves were terribly tried at times. Twice there was a light in the room as if made by a lantern carried by some one on the street.

" Had laid a trap in the sitting-room, but if they were in there they have caught on to it, which I had suspected was the case. About half-past four heard a click at sitting-room door, as if the lock was thrown back into position, after which everything quieted down. What did it mean ?

" December 7th. After making a feint of going to bed last night, spent the night on the lounge in the sitting-room and was not disturbed.

" December 8th. Frank B. and wife slept in the house last night. Went to bed, not hardly anticipating molestation, but shifted my position to farthest edge of the bed—waked up in the night and turned over face toward where I usually lay, when I could detect an odor of some kind, but did not feel any marked effect from it, but at the same time, or soon after, detected some one at the door. Should think in this case that there was but one person ; kept quiet and feigned sleep as best I could ; imagined there was something being thrown into the room, but, as I was evidently out of range, it had but little effect, if any ; heard a noise at the other door, but do not think that it was opened. After laying quiet for a while made a movement and made a few long breaths ; immediately heard a hasty step toward the stair landing, but kept quiet ; after a time thought the dose was repeated ; lay there for what seemed a long time, when I made the same movement, etc., followed again by the hasty step ; could not be positive of any further operation. After a time made a feint of waking and got up.

" I imagine that they have caught on and are experimenting. Feel stupid this morning.

" Sunday, December 9th. Made arrangements with J. M. to watch with me last night, but learned in the evening that T. was sick in bed with toothache, so it was not considered necessary to-day. M. has declined to enter into it, giving

several reasons. This throws me on my own resources again.

“December 10th. Took precautions to protect my face last night, which was fortunate, as I was experimented with for two hours or more, commencing about one o'clock; could form no idea which one of the family it was. They were unusually cautious.

“B. and wife slept in the house. They took their departure this morning.

“December 11th. Had a conference last night with Dr. H. and Mr. M. by appointment made by them; they advised nothing but what I have seen the necessity of for some time, but the question with me has been, when was the time? I went to bed about half past eleven, taking unusual precautions. I had been in bed, perhaps, an hour, and had evidently dropped off into a light sleep, when I was awakened, now, I think, by the fumes of the anæsthetic used. I soon discovered that an unusual effort was to be made, led on by desperation; entrance was made into my sitting-room, and I could hear now and then a noise as if brushing against my mackintosh in the further part of room, near lounge. Every movement was made with deliberation—a snail's pace would be swift in comparison with the movements of the person in the room. No board would squeak under such a tread. Finally, they reached the bed-room door. In the meantime I was laying with pistol at full-cock; at the door they halted without getting in front of it. I had taken the precaution to throw the bed-room in the dark and sitting-room in the light, and placed myself with head at foot of the bed, with the door in line with south window, leaving the west window curtains part way up; they evidently grasped the situation. In the meantime, in intervals, I would have to

fight off a drowsiness. Finally I could detect an up-and-down motion, as if some one was working their arm up and down at full length across the door, but at no time showing their person. This was kept up for some time, and then ceased. All these movements were done with great deliberation, so much so that it was now approaching morning and my position in bed was becoming very irksome, and I had to, at times, cautiously shift my position, which, I think, was finally detected, as I became aware, between four and five o'clock, that the premises were vacated. Got up about five o'clock, and found the door closed; then went to bed in the usual manner, and laid on my side, and was breathing somewhat heavily as I noticed, but did not go to sleep. After, perhaps, half an hour I heard a step in the hall, first out toward the sitting-room door, then came to bed-room door, but whether anything was forced into my room I could not tell, as my face was protected and I was lying well on the edge of the bed, but thought so. I thought that it was about time to end it, and spoke in concentrated voice, 'Now, you get out of that, G—d d—you.' I hope the profanity was excusable under the circumstances. They got out, and I went to sleep, sleeping until after eight o'clock. I did not see any of the family when I went down, and did not see any of them at noon. At night when I went in, Mrs. T. and the two girls were in the sitting-room. Eva gave a quick glance up as I stepped to the door, and then down on her work. Mrs. T. did not look up as I went in. Helen looked at her mother in an expectant manner. Finally, as I approached the stair door, Mrs. T. looked up, and, in a forced, pleasant voice, asked, 'Does it rain now?' 'It does not rain now,' and I looked them over. When I came down to go to supper they had all disappeared. When I came back from supper they

were not in sight. Later in the evening, concluded to keep my fire up, so lit a lamp and went down after a hod of coal. No one in the sitting-room—the dining-room was dark. As I went in Eva was sitting in the corner out of sight of any one. Passing out of sitting-room, Mrs. T. was in the act of stepping into the kitchen. Helen I did not see. When I came back from cellar they were in sitting-room, and were there when I passed out for the night.

“Shall not sleep in the house again. Am satisfied that it was not intended I should leave the house alive.

“This statement is deliberately made.”

Other mental phenomena, such as excitement, depression, elation, incoherence in thought and speech, excess of inhibition, as in stupor and catalepsy; defect of it, as in mania, simple enfeeblement of mental powers, loss of memory, will power, and acuteness of perception—are all elements of some forms of insanity. They, however, do not require any special description, and will be referred to in connection with the symptoms of those forms of insanity in which they may appear.

Treatment.—The treatment of delusions is that of the different forms of insanity of which they are an element.

LECTURE V.

CLASSIFICATION OF MENTAL DISEASES. *

Early Classifications—Importance of Ætiological Classifications—Morel—Schroeder van der Kolk—Skae—Clouston—Sibbald—Nomenclature—Names of Diseases may have been Accidental, or from the Symptoms and the Part Affected—Names Selected from the Leading Symptom Present—"Monomania"—"Paranoia"—Arrangement of the Different Genera of Insanity—Difficulty Attending it—Any Arrangement in Present State of Knowledge Must be Tentative—One Suggested.

From the earliest history of disease much attention has been bestowed upon its nomenclature and classification. The Asclepiadæ based their systems, and necessarily so, upon the most superficial indications, namely, symptoms. They knew very little, if anything, of the nature of those pathological conditions which arise under the influence and operation of disordered processes, while their anatomical knowledge was equally deficient. Hence, these two characters, which at the present time serve to so largely increase the sum of our knowledge, could not enter their ideas of classification at all. Ætiology was still further removed from the range of their investigations, which were confined to such superficial indications of disease as were evident to simple observation. In process of time, however, the field of anatomy was opened, and as it became understood and widened the science of pathology was added, so

* This lecture, revised, but essentially in its present form, appeared in *The American Journal of Insanity*, January, 1888.

that disordered conditions of the several parts of the body came to be regarded as essentially the starting point in investigations of disease. The external manifestations, most of which are subject to large variations, even in the same disease, and some of which are common to diseases which are essentially different in their inception and character, came to be regarded as unsatisfactory as a basis of classification. The more permanent conditions existing in the morbid processes, and which serve to differentiate disease, thenceforth were regarded as forming a more reliable as well as scientific basis for the groupings and arrangements.

Therapeutics, which if not the first point to be sought for in all our investigations and building up of systems, is certainly next to the first, was, by this proceeding, relieved from the most unsatisfactory basis of symptomatology and directed toward the more essential conditions of disease, it being recognized that remedies addressed to symptoms may have no influence upon conditions of which they are only the external and changeful manifestations. And in proportion as this course has been carried out have rational measures and proceedings succeeded more irrational and empirical modes of treatment.

The old nomenclature was, however, not entirely discarded, but, on the contrary, much of it was retained, and we now have symptomatological names, such as paralysis, yellow fever, scarlet fever, etc., which were applied to them while the old basis of symptoms still obtained. This is not to be regretted, as changes of these names would introduce great confusion, and almost necessitate the study of disease *de novo* by those educated under former systems. Cullen says that changes in names of disease should be made only after the most careful consideration, and when the strongest reason exists for such changes.

Liebermeister long since pointed out the fact that the medical mind had been directed in more recent times to still another basis of classification, namely, that of ætiology, and indicated some of the very great advantages which had already accrued to the cause of medicine by an approach to its study on this basis. Whether we shall ever arrive at a knowledge of the causation of all forms of disease, we need not now stop to inquire, but it is quite certain that this is the goal to be sought for. Only when we arrive at the knowledge of the causation of disease can we have any basis of intelligent and rational treatment. In those cases where the cause is of such a nature as to be removed or avoided, the physician attains the highest of all triumphs in his profession. And even when the causes are of such a nature as to baffle treatment by prevention, we certainly can approach the conduct of disease from the most desirable of all points, namely, its ultimate. Therefore, ætiology and pathology must, in the future, from their importance as well as from their more permanent and unchanging character, form the true and ultimate basis of medical classification.

In the field of general medicine this fact has long been recognized. Nearly all of the more modern writers upon systematic medicine have made large use of ætiological classifications, and we may anticipate that in the future, as our knowledge in this department of disease becomes more definite and extended, this course of procedure will be carried out still more largely than in the past.

In the field of psychiatry Morel and Schroeder van der Kolk were the first to introduce and advocate the ætiological system of classification. Van der Kolk, however, thought that the terms mania, monomania, melancholia, dementia, and idiotism should still be retained in use, as

they serve to distinguish better than other names the different forms; but he regarded such a division as decidedly objectionable, because it was based on symptoms which are changeable rather than upon causes and origin of disease. He adopted two principal groups or genera, which he designated as idiopathic and sympathetic. The first indicated those cases in which the cause exists in the brain, and the second those in which the cause exists in other portions of the body, especially the abdomen and sexual organs.

The first genus, A, included :—

1. Acute Idiopathic Mania.
2. Chronic Idiopathic Mania.
3. Obtuseness.
4. Dementia and Idiotism.

The second genus, B, included :—

1. Sympathetic Mania from disease of the colon.
2. Sympathetic Mania from disease of the sexual organs.
3. Sympathetic Mania from chest affections.
4. Sympathetic Mania from *erethica senilis*.
5. Intermittent Mania.

In the form of sympathetic insanity there might exist at times a condition of mania, and at others of melancholia; a condition of excitement or depression.

Among English writers, Skae, though perhaps not the first to suggest, yet appears to have been the first to adopt, strongly advocate, and defend the system of ætiological classifications. He also enlarged what had been done by van der Kolk by the addition of several species or forms of insanity. This number, since his day, has been considerably increased by his pupils, Clouston, Sibbald, J. Batty Tuke, and others, and his classification has been adopted to

some extent by those authors who have written systematic works on insanity within the past few years. That it is ever likely to wholly supersede Esquirol's nomenclature and orders I think its most sanguine advocates hesitate to claim. It certainly is not likely to do so until our means of investigating the nature of those changes which occur during the processes of thought while the brain is in a state of health have become more efficient than they are at the present time ; nor until the nature of simple derangement of mental activities is better understood.

Our study of classification, then, leads into two divisions of the subject, namely, **nomenclature** and **arrangement**. Some remarks on these branches of our subject will now be in order.

I. Nomenclature.—The selection of names for the different forms of disease affecting the several organs of the body appears to have been in some cases almost accidental, and without any purpose of a description of either its nature or the character of its symptoms. In other cases it has been founded upon the most superficial and easily recognized symptoms. In other cases still, it has been from the character of the pathological changes which are known to occur during its progress, or which are supposed to constitute its nature ; and, finally, from the character of its causation, and the name of the organ, or of the part affected. As examples of these several courses of procedure may be mentioned :—

1. The Plague, Addison's disease, Basedow's disease, Graves' disease.

2. Apoplexy, Yellow fever, Scarlet fever, Irritative fever, Rubeola.

3. Bronchitis, Neuralgia, Pneumonitis, Bronchorrhagia, Tuberculosis.

4. Malarial fever, Heat stroke, Bilious fever, etc.

These few examples, selected at random, are sufficient to illustrate the statement as to the confused method made use of especially in the earlier nomenclature of disease in general. This lack of method or system has, perhaps, been unavoidable, as it has been desirable to furnish names to forms of disease in many cases in their earliest history, and before much was understood about them, except their most superficial indications, and when little was thought of in regard to consistency or plan of nomenclature; while, in more recent times, names have been selected having relation to both pathology and ætiology. This lack of system by early writers is of comparatively little importance, and not especially to be regretted except in those cases in which the name is false, or conveys a wrong idea as to either the symptoms, character, pathology, or ætiology of the disease. In nearly all of the above examples comprising the last three classes we have seen that the names do have reference to some one of the characters of the disease, and in many it indicates not only the character of the disease, but also the organ affected, both in a single word; and in others still, it gives the cause as well as the nature and the organ affected.

Now, in one view of the subject, it may be admitted that a name is not of vital importance, as it becomes essential that the character of the disordered activity which constitutes that sought to be named must be studied and comprehended by the student before he obtains that information which is to be of service to him in his future relations to it, and if the name is merely an arbitrary one, we may grant the claim; but, if this is not the case, and the name has been applied under a mistaken idea as to the nature of the disease, or actually conveys a wrong impression of the character of its manifestations, then it certainly becomes a matter of importance, and may be enough so to warrant the changing

of the name, even after years of use. For instance, if in yellow fever, it were found that those affected did not become tinged with that color any more than when in a state of health, or when affected with some other form of disease, it would appear to be absurd to continue the name at present in use; if, in irritative fever, there has been found, after a more comprehensive study of the disease, that there exists no larger amount of irritation than in other forms of fever, or in other disordered conditions of the system, can we doubt that subsequent writers would modify or change the name, especially as these terms would then be misnomers, and convey wrong impressions?

Examination then indicates that modern authors especially have been guided in the nomenclature of disease very largely by its relation to symptomatology, pathology, ætiology, and the organs which may be its seat, and that in so far as practicable, they have sought to combine the several elements of the disease into the name, and thus convey an idea as to the nature of the disease sought to be named. And further, that so far as the nature of the pathology and ætiology of disease has been understood when the disease has been christened, has the name been selected, not from the mere superficial indications of symptoms which have been the first to be observed and studied, but rather from the more permanent elements of physiology, pathology, or ætiology.

With these principles of the nomenclature of disease in general in mind, we may now refer to two or three terms in use in the nomenclature of mental diseases. And, first, those which have been in use from its earliest history, and which Esquirol applied in his classification, viz., mania, melancholia, and dementia.

The criticism of these terms by van der Kolk, as appli-

cable to orders of genera of insanity, viz., that they indicate merely symptoms of disease and not any essential or permanent element of character belonging to it, is as pertinent at the present time as it was then, and it has been repeated by many writers since his day. Indeed, Skae endeavored to abolish their use altogether as names of forms of disease, thus following in a general way in the footsteps of writers upon systematic medicine. But it has been shown that this has not been done in all cases by authors of works on general medicine, and that symptomatological nomenclature is still retained to some extent. Writers on mental disease therefore do not essentially differ from writers on other forms of disease in this respect when they retain these terms to designate genera of insanity. Besides, pathological research has hitherto failed to demonstrate the nature of those changes which occur either in the texture or the physiological activities of the brain, and which are the basis of either acute mania, melancholia, or secondary dementia; and we are consequently in the dark at the present time, beyond the merest conjecture as to the nature of the pathological basis of these morbid symptoms. Reasoning from analogy and from our knowledge of physiological activities in general, we are confident that this basis is a disordered condition of certain elements of the brain structure; but until we understand more fully than at the present time in what this consists we are as helpless as Esquirol was when we attempt to attach any name to it which shall indicate its character. In his use of the terms he pursued a course exactly similar to that taken by writers on other forms of disease; he applied the name of the most patent and essential external manifestations of these genera in each of the cases. The only other course open to him was the selection of a name entirely neutral or arbitrary in character, which would have been

still more objectionable. So long as the terms yellow fever, scarlet fever, irritative fever, are in use by authors, writers on insanity need not be sensitive as to the use of mania, melancholia, and dementia; and until we understand some ætiological or pathological equivalent for them we perceive no way by which they can be superseded as applied to genera of insanity. A few words in reference to the use of the term—

Monomania.—Esquirol introduced this term to designate a species, rather than a genus, of mental disease. It would appear that, at first he thought there was a special form in which the disordered manifestations relate to one or a few subjects only, or in which a single faculty of the mind might be deranged. His writings on the subject, however, indicate, that while at times he used it in this restricted application, at others he employed it with a wider signification, and in such a manner as to cover a considerable variety of disordered mental activities, especially certain phases of chronic mania. However this may be, since the idea of partitions and divisions of the mind, one or two of which could be disordered, while all the others remained in state of health, has passed away, it has been applied to designate a special genus of insanity, which is essentially chronic in character, and which sooner or later exhibits derangement in many directions. It should be said that some of the features and characters of this genus of insanity have been brought to light, studied, and more fully differentiated by those who have succeeded Esquirol, and that these additional elements of the disease have only served to indicate more clearly objections to the use of this term monomania. I think there can be no question that they demonstrate that it is neither single in its elements nor maniacal in its manifestations, and that the term monomania is, therefore,

untrue in both its primal and terminal compositions, and thus vitiates all principles of medical nomenclature.

Whatever of excitement may exist in that genus of insanity to which it has been applied, is certainly very different in its character from that existing in mania. In the latter form of disease, the leading feature is lesion of the inhibitory centres of thought, and, consequently, there results an increase in the flow of words with more or less of excitement beyond what exists in a state of health, while in the former an opposite condition of mind exists. The thought is consecutive, and the opinions may be correct, and frequently would be, if the premises assumed to exist actually did exist. The person does not often become excited, nor does he become convinced when the fallacy of his reasoning is shown ; but, on the contrary, he remains calm and unmoved in the face of the plainest exhibition of his folly, thus showing how profoundly his whole mental constitution is involved. Nor, again, does he become depressed and melancholy, when day after day passes, and he finds that his desires or plans to effect his wishes fail. He tells of his persecutions and the machinations of his supposed enemies with very little exhibition of excitement, or any deep apprehension as to the effects which are likely to ensue. It need not be said that all this is radically different from the depression of a melancholiac or the excitement of a maniac. The term, therefore, expresses a false character in the latter element of its composition as well as in the primal one, and, in consequence, has served to convey both to the laity and the profession incorrect ideas as to the nature of the disorder to which it is attached. If, however, it should be applied only as it is by some writers, to that form of mania which is sometimes sequential to its active form, and in which one or a few ideas of an exalted

character are more especially the theme of expression, the terminal portion would be more applicable.

There is another term, which, though suggested and used to some extent by writers abroad, yet has more recently been introduced to the nomenclature of mental diseases in America. I refer to **Paranoia**. By some writers this has been used as a substitute for the monomania of Esquirol and by others for the broader *Primaere Verruecktheit* of the Germans. It is certainly difficult to understand on what principles of nomenclature this term can be applied to any genus of insanity. If the purpose was to substitute a Greek word for one derived from the Latin, and by its use avoid the English term insanity altogether as the name of an order of disease, all would be plain enough, but no such purpose exists. We have the term insanity as descriptive of a class or order of disease, and we are now seeking a name for a particular genus of that order, and it becomes obvious at once that a name which comprehends all that is understood by the name of the class or order under which it is to be arranged, will convey not only no accurate idea as to what is named, but is eminently misleading. It certainly has relations neither with a symptomatological, pathological, physiological, or ætiological basis of nomenclature, nor has it even the merit of a neutral character, as is the case when forms of disease are named after the discoverers, as Graves' disease, Addison's disease, etc.

In a classification of disease, and translated into English, it would read as follows :—

Order A.—Insanity.

Genus 1.—Mania.

Genus 2.—Melancholia.

Genus 3.—Insanity.

This would be as scientifically accurate as for a naturalist when classifying any order of birds—say that of ducks, geese, etc.—to proceed as follows:—

Genus A.—Ducks.

Species 1.—Mallards.

Species 2.—Teals.

Species 3.—Wood Ducks.

Species 4.—Ducks.

Or, if again, in classifying the orders of fish, he should select that of eels, and proceed as follows:—

Order A.—Eels.

Genus 1.—Common Eels.

Genus 2.—Electrical Eels.

Genus 3.—Roman Eels.

Genus 4.—Eels.

I think that it may fairly be assumed that the wealth of terms which could be derived from the Greek, Latin, and English languages, when conjoined with the symptoms, pathology, or ætiology of any order or genus of disease which has become sufficiently understood to be differentiated and described, will suffice to provide some name which may in a measure indicate its character.

Instead of the term monomania, for reasons already presented I would suggest another. And as the form of disease is one without well determined lesions of the brain, and whose proximal ætiology is not well understood, we are led to the character of the symptoms for its nomenclature. Delusions, or a series of combined delusions, restricted for the time being in character and range of subjects, sometimes attended with hallucinations and at others not so, appear to constitute the primordial element of the disease. These delusions are peculiar as to their mode of origin. They are not the sequence or residue of

former attacks of systematized insanity, such as mania or melancholia, nor do they arise in connection with such attacks, nor in consequence of any morbid habits of psychological processes, which have existed in the former history of the individual. In other words, they are neither concomitants of, nor secondary to other conditions of either excitement or depression. They arise, therefore, as primary elements of the disorder they characterize. We may, therefore, employ the term primary delusional insanity for this form of disease.

II. **Arrangement.**—The other division of our subject relates to the grouping or arrangement of the several orders, genera, and species of insanity. The different systems devised and elaborated by authors have been almost as numerous as the authors, and have ranged from the simplest to the most complicated. If, however, the principles of classification in general, which have been referred to as guides in the nomenclature of the several forms, are correct, and can be of service in the arrangement of genera and species of insanity, certain other considerations which have been by some regarded as of importance may be dispensed with without much detriment.

1st. The question as to whether a species of disease is *curable* or *incurable* will not be regarded as legitimate in forming any arrangement of groupings. The element of curability is very indefinite and uncertain in many cases, and involves a question which cannot be determined until after a long experience of treatment, and in some cases recovery may occur long after the result has been regarded as improbable. Krafft-Ebing, while making use of "curable" and "incurable" states as a basis in parts of his classification, places *Primaere Verruecktheit* among the incurable

forms, and yet in his monograph on this genus he admits that recoveries sometimes occur in persons affected with this form of insanity. I am unaware that this principle of classification is ever made use of in studying and arranging groups of disease in general.

Nor shall we regard the question, whether the disease is of such a character that a person who has once been affected by it is likely or liable to be so again, as of sufficient importance as to serve as a basis of arrangement, unless there may have become established a *neurosis*, which may serve as an etiological basis for such a recurrence. In very many cases the question of recurrence will depend more largely upon the peculiarities of the individual in the way of inheritance, manner of life, character of vocation, ability to avoid exciting causes etc., than upon the character of the disease itself.

Nor, again, will the question as to the relative numbers of cases which may be found in an order or genus, nor any system of "balancing" of these numbers so as to form a harmonious and symmetrical arrangement of the different forms, require attention. It does not appear how the matter of numbers, or whether we find one or one hundred cases of any form of disease in passing through the wards of a hospital, can possibly affect our inquiry as to the nature of the disease itself, or determine the genera under which it should be tabulated. An order may embrace one third or nine-tenths of all genera and species of cases and yet be founded on the only scientific basis practicable. The "clinical unity," which is to be sought for, should come from such an arrangement of the several orders and genera, as will depend upon the most essential causes and characters of the disease. But whatever course we adopt we shall meet with obstacles, which arise from various sources.

One of the principal difficulties in arranging the different genera and species arises from the fact that upon whatever basis of selection we proceed there appear *close affiliations and similarities of character*. This is equally true in relation to the symptomatology, pathology, and ætiology of several of the genera; and the importance of these similarities will vary greatly in the minds of different authors, leading, consequently, to groupings according to the standpoint of the author. To one writer the character of a symptom, such as excitement or depression, or a diminution of mental function, will appear to be of sufficient importance to lead to a different grouping of certain genera or species, while with another these changing conditions will be regarded as of less importance, and he will seek for a more permanent basis in some essential character.

Again, when even these more permanent elements of character, such as pathology and ætiology, are selected to form the basis of groups, it will be found that the same genus may present a character, or arise from such causes as would lead to its location in either one of two or more groups. For instance, senile insanity will be regarded by one writer as simply a species of the genus dementia, and be arranged with the other dementias, such as primary, secondary, without regard to the ætiology or pathology; while another will choose to regard it as a genus of the special order of epochal insanities, which will sometimes present symptoms of excitement, at other times of depression, and at others still of dementia, but all of which have the basis of their origin in the physiological condition of a senile brain. One writer, regarding syphilitic insanity from the character of the degenerative changes which occur sooner or later in the nervous system of the patient, will arrange it with general paralysis in a group of patho-

logical insanities, while another, regarding it from an ætiological point of view, will arrange it with the group of toxic insanities.

Again, the relative importance of the several ætiological factors which may enter into the consideration of any order or genus of insanity may vary largely with different authors. In the ideal classification presented by Dr. Savage in his recent volume on insanity, it will be observed that he regards the physiological epochs of life as of prime importance, and makes them the principal basis of his arrangement. By this method he relegates the proximal causes of genera and species to a secondary position, and introduces the same nomenclature for several species. Others regard these physiological epochs of less importance, as a basis of classification, and group the genera of insanity which arise in connection with them under one order only.

Limitation in the consideration of any Genus of Insanity may lead to locating it in a relatively different position, or in a different order from that to which it would be assigned if studied under a wider signification. By this procedure syphilitic insanity may be limited to one species and regarded as a dementia, depending upon and arising from the pathological changes represented by the development of gummatous tumors in the substance of the brain, and infiltration of the membranes with syphilomatous degenerations of the brain arteries. If limited to this treatment it would be proper to regard and classify it with the pathological insanities. But if it be regarded as a genus, and as presenting a wider range of psychological characters and comprising several species, some of which are not attended with the same characters of pathological change as have been enumerated above, but which are dependent

upon and arise from syphilitic infection, then it would be more appropriate to arrange it with the toxic insanities.

In the same manner if alcoholic insanity be limited to that one phase of it, which has finally eventuated in a fully developed alcoholic neurosis, and is dependent upon changes in the brain which have become chronic, then it may be arranged as one of the neuropathic insanities. But if it be regarded also as presenting an acute and a sub-chronic variety, both of which are attended with symptoms and conditions more or less peculiar to them, and are dependent more especially upon the acute and sub-acute effects of alcohol upon the nervous system, then it also would more properly be tabulated with the toxic insanities.

In fact, the arguments for and against almost any combination and groupings of the several genera of insanity may be so numerous that it is quite impossible to arrange any system which will not present objections to some minds; and it is very certain that when so many writers of the highest eminence have failed to agree upon what is the most desirable, the subject is attended with difficulties which are quite insurmountable in the present state of our knowledge. Our conclusion, therefore, is that for the present, and until we discover such means and appliances as shall enable us to determine more fully the nature of the normal physiological activity of that portion of the brain whose function is connected with the thought process, and until we can appreciate more fully and perfectly those pathological changes upon which mental derangement is supposed to depend, all our classifications of insanity must be regarded as merely tentative.

The following arrangement will serve as a basis for these lectures, and I shall refer only to those forms which will probably most frequently come under your observation.

A. SYMPTOMATOLOGICAL.

1. Melancholia.
2. Mania.
3. Primary Delusional Insanity.
4. Folie Circulaire.
5. Dementia.

B. ÆTIOLOGICAL.

INSANIÆ.

- | | | | |
|----|--|---|--|
| 1. | Epochal.
(Physiological). | { | Insanity of Puberty.
Climacteric Insanity.
Senile Insanity. |
| 2. | Sympathetic
(Sexual). | { | Puerperal Insanity.
Masturbatic Insanity.
Ovarian Insanity. |
| 3. | Toxic. | { | Alcoholic Insanity.
Syphilitic Insanity. |
| 4. | Neuropathic. | { | Epileptic Insanity.
Hysterical Insanity. |
| 5. | Pathological. | { | General Paralysis.
Insanity from coarse brain disease.
Acute Delirium. (Typhomania). |
| 6. | Other less frequent
genera and species. | { | Phthisical Insanity. Rheumatic In.
sanity.
Post-febrile Insanity. |

LECTURE VI.

MELANCHOLIA.

Two Classes of Mental Disorder—Definition—Ætiology—Heredity—Sex—Climate—Age—Lithæmia—Moral Causes—Mode of Invasion—Symptoms, Physical—Diminution of Nerve Energy—Effects upon the Voice and the Physiognomy—Increase of Action in the Vaso-Motor System—Loss of Flesh—Cutaneous Surface—Insomnia—Cephalalgia—Symptoms, Psychological—Morbid Self-consciousness and Introspection—Impressions—Mental Pain—Lack of Decision—Sphere of Thought Limited—Painful Sensations—Losses—Fear of Death—Fear of Becoming Insane, etc.—Periods of Depression which do not Eventuate in Melancholia—Stupor—May Arise as an Independent Disorder—Indications of its Approach—Symptoms—Movements Attended with Discomfort—Hallucinations—Case—Refusal of Food—Pupils Insensible to Light—Low Temperature—Sudden Changes in the Mental State.

The departure of the mind from a normal state of activity is more often than otherwise in one of two directions, viz.: toward a state of debility and diminution of functional activity, or toward a state of increased, though vitiated, function.

These two classes of disorders are embraced under the general terms of melancholia and mania. The first is probably as old as any authentic history of disease itself, and was in familiar use by the earliest teachers. It may be defined as *an affection which is attended with depression, a tendency toward introspection, more or less of mental pain, enfeeblement, and partial prostration of the mental and physical faculties, with or without delusions.*

Ætiology.—One of the most important factors in the causation of melancholia is heredity. This element exists, according to some authorities, in nearly sixty per cent. of all cases, and may come from either one or both parents or grandparents. It is regarded as more common among females than males; this, however, is not in accordance with my experience. Doubtless the nervous system in females is more sensitive, and therefore more susceptible to the effect of moral impressions of all kinds; but, on the other hand, the male, as the bread-winner, or financial agent of the family, is more exposed to the effects of reverses in business and the consequent worry and anxiety than the female, whose sphere of activity is more limited.

Melancholia occurs more frequently, and affects the system with greater intensity, between the ages of thirty and forty, but when inherited more often occurs at the critical periods of life—puberty and the grand climacteric. According to Dagonet, it exists more frequently among the inhabitants of northern climates and of mountainous regions, than among those residing in warmer climates. Disappointments, excessive mental application and strain, reverses in business, masturbation, loss of property, loss of children, anxiety in any and all its forms, and, in fact, any of those experiences and conditions which tend to weaken and especially depress the nervous system, may act as direct causes in the development of the disease. An additional factor in its causation is doubtless a deficiency in the elimination of the products of secondary changes in the elements of the tissues, and a consequent vicious quality of the blood. It may also, to some extent, arise from that systemic condition which has been termed uricæmia, or lithæmia. The products of a deficiency of oxidation act as irritants upon the nervous centres, and

prevent the supervention of that condition of the brain which is necessarily incident to sleep. They may also be an active factor in the causation of mental depression and the emotional disturbances which sometimes occur without melancholia.

Mode of Invasion.—This disorder rarely becomes suddenly developed. There usually exists a considerable period of incubation, during which changes of mental condition may occur, such as vague apprehension, unusual irritableness, or alternate states of depression and hopefulness. The length of time during which the latter state continues tends to become shorter; the person loses interest in his usual work, and, finally, abandons it altogether; remains at home, is silent and unhappy, and cannot be induced to seek for amusement or change, nor to engage in much active exercise of mind or body. The sphere of normal mental activity becomes transferred from the external or objective world, where its enjoyment has more largely existed, to a subjective one; and here it tends constantly toward a more and more limited field, and in proportion as this occurs the intensity of mental pain is increased.

The period during which these prodromatous conditions exist may vary very considerably. It usually extends over several months, and may extend over years. The individual is generally at first fully aware of the changed state of his feelings, but shrinks from making it known to others. He is able to follow his usual occupations; his mind is clear in reference to his relation to duties, but, especially when alone, is filled with painful emotions. When reminded that he becomes unduly absorbed in his own reflections and is unmindful of his relations to others, he may make an effort to resume his former habits of thought and action, but this is successfully done only for a longer or

shorter period, according to the degree of impairment in the physiological activities of the emotional centres.

M. D., age fifty-nine, when admitted to the Retreat, was reported to have been in this state for more than two years, despondent at times and anxious, and yet had, up to within two months, attended to his usual occupation and slept well. These mild and initiatory attacks are often relieved by periods of rest and change of occupation and diet.

Symptoms—Physical.—The physical symptoms of melancholia are much more definite and characteristic than they are in many other forms of mental disease, and as these physical conditions are, without doubt, largely the cause of the mental symptoms, it is desirable to carefully note and examine some of the more important in detail.

One of the most marked characteristics of the melancholiac is the change in his general appearance and attitude. This distinguishes him at once from persons affected with other forms of mental diseases, even to one who has had no experience in the study of insanity; it arises from two causes.

The first is a partial paralysis of, or a diminution in, the normal amount of nerve-energy in the cerebrum and the motor-system of nerves. Locomotion requires a greater effort on the part of the individual, and is attended with a feeling of lassitude and weariness; movements are as few as possible, and are made slowly or not at all; the gait is unsteady, and the arms hang loosely by the side; the person may sit for hours with almost no movement if permitted to do so, and remain silent with eyes fixed upon the floor or gazing upon the wall before him. He sometimes will remain in bed unless forced to arise, and often requires to be dressed and forced to take exercise, if he has any.

This diminution of nerve-energy extends to the laryngeal

muscles, and renders the voice feeble and indistinct. It often appears very difficult for the person to articulate perfectly, and it requires so much effort that he answers questions, if at all, only after they are repeated perhaps several times. The muscular fibres of both the large and small intestines sympathize with the general debility of the muscular system, and, in consequence, the peristaltic action of these organs is greatly diminished. Hence, one of the most persistent and annoying of the physical symptoms, costiveness, is generally present.

The physiognomy is changed, and the face seems to be larger; the head falls forward when the patient is either sitting or walking, the orbicular muscles become relaxed, and the eyes are sunken in the sockets, and appear larger than usual.

Second: On the other hand, there exists an increase of action in the vaso-motor system as compared with that which is present in health, in consequence of the usual balance—which exists between the two systems of nerves, and by means of which the circulatory and nutritive systems are enabled to act freely and normally—being deranged. The small arteries and capillaries become constricted, and the amount of blood passing through them lessened; the nervous tissues and organs of the body are imperfectly nourished, and the person looks pale and thin in the face, perhaps more so than he really is. The action of the heart is diminished in force and frequency; the pulse is weaker, and there results a corresponding diminution in the circulation of the blood to the internal organs of the body, and also a change in its quality which doubtless leads to a lessening of the secretions and excretions.

The mouth becomes dry and the tongue coated, and has a bitter taste; the appetite is diminished or altogether absent;

the usual satisfaction which arises from the use of food and its presence in the stomach is gone, and an indifference in regard to it, or an actual loathing of it, results. This becomes so fully pronounced, in many cases, that they rapidly become weaker and thin in flesh, and would approach actual starvation if resort was not had to forced alimentation. Even when food is received with regularity, it appears to be only partially digested or assimilated, and the body is imperfectly nourished, while the subcutaneous adipose tissue becomes rapidly absorbed. The mucous surfaces of the bowels tend to become dry, which increases the difficulty in obtaining their evacuation. The urine is scanty and high colored; the ordinary amount of perspiration and secretion of the sebaceous follicles of the skin, though increased in the early stage of some cases, are generally greatly diminished, and there results a dry, harsh skin and hair.

The whole cutaneous surface is partially anæsthetic in some cases, and it appears to be almost insensible to the effects of heat and cold, bruises and contusions; the hand will be placed in a flame or on a steam pipe, and held there, if permitted, until the tissues are destroyed, with little or no indication of pain. In the cases of females, menstruation ceases altogether, and the sexual appetite is in abeyance in both sexes.

One of the most conspicuous consequences of the derangement in the circulation of the blood in the different internal organs, and the supersensitive condition of the ideomotor centres of the brain, is **insomnia**. This is one of the most constant of melancholiac symptoms, is very persistent, and is present in almost all cases sooner or later. The condition of the brain giving rise to it is sometimes realized by the patient, and is the cause of much apprehension and suffering; and, even when sleep is induced, it is often attended

with unpleasant dreams and a semi-conscious apprehension of something dreadful about to happen to the person. He awakes in a short time, or in a few hours, with a feeling of uneasiness and lassitude, as if he had not slept, and frequently declares that he has been awake all night.

Cephalalgia is another symptom which is present in a considerable number of patients, more especially in the early stage of the disorder, and especially in the early part of the day, or for a period after awakening from sleep, and there can be but little doubt that it arises from the changed conditions of the circulation of the brain or from the existence of oxaluria or uræmia. In many cases the abnormal sensation does not amount to actual pain, and the patient complains of a "vacant" sensation, or one as if there was external pressure on some particular spot, which may continue for some hours, passing off before the patient sleeps.

Some or all of the above physical symptoms may exist in different cases in varying degrees of intensity, and there will generally be found a considerable measure of correspondence between their severity and extent, and those of the psychical condition which may be present.

Symptoms—*Psychical*.—The mental symptoms in melancholia vary even more largely in different cases than do the physical, and have led to the arrangement and presentation of several varieties of the disorder by different authors. These mental symptoms will be found also to have some special relation to the physical conditions, and, indeed, appear to be the legitimate outcome of them, at least in the milder forms of the disease. There exist, however, no clearly defined lines of division between these varieties. On the contrary, they fade insensibly into each other. But, for our greater convenience, we may refer to the characters as they appear under several classes

of cases; and, first, that of **simple melancholia**, or the "*melancholia avec conscience*" of French authors.

One of the primary, most obvious, and persistent of the mental symptoms is that of morbid *self-consciousness and introspection*. The mind seems no longer to reach to its environment for satisfaction or enjoyment. It no longer delights in the social or family life which has before held so large a place in its affections. The patient turns away from friend, family, and former interests, and shrinks within himself, broods, and feeds upon his past experiences, which are soon all converted into failures and mistakes, or even into criminal acts. This leads to an indifference toward or a positive dislike of the usual pursuits and avocations which have been followed, perhaps during long years. The world-life without no longer presents its former attractions, and he finds it very difficult or quite impossible to project his thoughts and purposes from himself enough to enable him to concentrate them upon the necessary details of arrangement, and thus render the accomplishment of labor either easy or satisfactory; he, therefore, turns from it with weariness or loathing.

A step further, and this intense introspection leads to a dislike toward former friends and even nearest relatives. The husband becomes indifferent toward the wife and the wife toward the husband, the child toward the parents and *vice versa*. The miserable failures and mistakes which have been so long and so constantly made, according to the disordered mental reckoning of the patient, must, in the natural order, have long since alienated all old friends, and their professions of interest and love now weigh for little or nothing in his consideration.

The changed condition of the circulation, eventuating in a largely diminished supply of properly aerated blood,

appears to result in a supersensitive condition of some of the higher brain centres. They are correspondingly easily affected, and impressions conveyed to them from without are increased in force, resulting in the formation of concepts in the mind which affect it with an abnormal degree of *intensity*; the person is irritable, impatient, and disinclined to yield to the requests of others.

There may not be enough of the morbid element to amount to a delusion in the character of the concepts themselves; they may develop from the basis of the normal association of other concepts, and would themselves be normal except for the sensitive state of the brain centres. But, arising in connection with such an abnormal condition, they are accompanied with unusual experiences.

One of these is **mental pain**. When persons are in a condition of health, the thought-process transpires almost or quite automatically, except as influenced by the will, and certainly is not attended with painful feelings. Without doubt there exist different degrees of brain sensitiveness in different persons when in health, so that similar impressions from without may be of such a character as to cause varying degrees of painful emotions. Young persons are usually more sensitive than older ones, women than men, and some women more so than other women. But in the melancholiac there has occurred, in this respect, a change from that condition of brain which is normal to the individual, a change resulting in such a state of the brain that the ordinary process of thought and the formation of concepts is attended with an element of pain, which the patient is nearly always conscious of when awake. It is, however, without any adequate cause in the environment of the individual.

There may also exist an inability to come to any final

conclusion or determination in reference to subjects occupying the mind or in reference to requests presented. Some arguments for and others against a certain course of conduct are constantly thrusting themselves forward into the field of consciousness, thus rendering the person uncertain and confused as to what should or should not be done; while efforts on his part to come to a decision are attended with painful sensations in certain portions of the brain. Doubtless there exists in some of these cases a hyperæmic condition of the membranes of the brain, attended with an abnormal amount of nerve energy in those brain centres which preside over the emotions.

Another change in the character of mental activities consists in the **tenacity** with which any concept which has once arisen in the brain, and which is in harmony with the prevailing emotional state, holds on its course, refusing, as it were, to yield its place to others. Largely in proportion as the subjective consciousness increases, the sphere of thought appears to be circumscribed and limited to one or a few subjects only, and the concept or purpose revolves again and again, returning through the same brain channels of mental activity, and every effort which the patient can initiate for its removal, or to replace it by others which relate to other subjects or persons, fails for the time being. And if in the process of time, by means of a change of scene and association or other strong influences and impressions, this concept loses its hold and fades away, some other arises, takes its place and remains with a like force and tenacity. Hence an almost mulish obstinacy and indifference on the part of some patients. They refuse to be moved or persuaded; they will not dress or undress, retire to bed or get up, take food or drink, except as they are forced to do so, while the field of consciousness is filled with an ever

increasing round of irrelevant thought, attended with pain.

Impressions upon the end organs of sense reach the sensorial and intellectual centres and eventuate in speech and motor activity more slowly than in health. The same fact exists in dementia, general paresis, and in some other forms of insanity, but it appears to be more especially characteristic of melancholia, though it is not practicable to accurately demonstrate by experiment the amount of change which has occurred in this respect in any individual case.

The morbid element, therefore, in the character of the thought process, and its resultant concepts, relates to their *persistence*, *intensity*, and the attending *painful sensations*; and these modified characters will be discovered in the multitudes of experiences, beliefs, and actions, which are generally present in cases of melancholia, covering the whole field of mental activities. They not infrequently have a basis of truth and develop from some of the actual past experiences of the individual, especially during the early periods of the disorder. When this is the case, they may refer to past occupations, associations, domestic disappointments and afflictions, or to the subject of health. One may have met with reverses in business, or lost a child or other relative by death. This experience and its attendant circumstances occupy the mind night and day, giving rise to a multitude of self reproaches and vain misgivings. He thinks and says, "If only I had pursued such and such a course of conduct, all would have been well." Another is haunted with the idea that he is financially ruined, and will never be able to meet his obligations; that he has disgraced himself and forfeited all claim to the respect of his former associates; there has never been any honorable motive in his business transactions; and the time is not far distant when his miserable delinquencies

will all become exposed to his neighbors and friends ; then his good name, of which he has thought so much, and the reputation he has sustained for so many years, will vanish into emptiness. Another is haunted with the fear of death. He realizes that he is not well, that he is miserable, and is confident that the illness is to be fatal, and that the sufferings of a future world are awaiting him. Another, still, is haunted with the fear that he is to become insane very soon. He is not so now, but the time is near at hand when he will become only a dement. He consults his physician, explains in some measure his morbid and painful forebodings, his despair of ever being any better, and ends with the statement that he is confident he will soon be insane, and fears that he will be sent to an asylum ; he begs that he may be saved from such a sad fate.

In short, the whole field of mental activity appears to be filled, so far as it is filled with anything, with these morbid ideas and delusions. Dr. Clouston, in his clinical lectures upon Mental Diseases, enumerates more than fifty of these different delusive beliefs, which have been noticed in patients who have been under his observation. In process of time the whole intelligence becomes profoundly affected, and all volitional power to act is suspended. The self-accusations repeat themselves over and over ; the person is ruined or lost forever ; he has committed the unpardonable sin, and will be eternally consigned to punishment ; he will never recover ; or, he has been defrauded, or poisoned, etc., etc. The tendency in such cases is toward a condition of stupor rather than one attended by delusions of persecution. Hallucination of the special organs of sense are rare, except in the more advanced stages, the conditions of which are to be described hereafter.

It should be noted that many persons have, during limited

and, indeed, quite prolonged periods, experiences of such depressive conditions and morbid beliefs, and that they do not affect their minds so profoundly as to prevent them from engaging in their usual occupations. Such persons not infrequently consult the family physician who would not think of seeking the advice of an alienist. With or without special treatment the condition may pass away and again return after several weeks or months, and this process may recur several times before there shall become established a permanent or continued morbid state of mind ; and in many cases such a condition never ensues.

Stupor.—The condition of stupor is so frequently found in cases of melancholia, that some authors enumerate a special variety, as "*Melancholia with Stupor*," or "*Melancholia Attonita*." Its significance is so marked that its characters require a careful study.

It should be noticed that this is a condition not confined to that genus of mental disorder we are now investigating, but one which may develop in the course of other forms of mental disease, or, according to Dagonet, as an independent disorder. It may arise in cases of violent maniacal excitement in which the nervous system becomes rapidly exhausted, and also from prolonged mental strain, especially in the young.

Again, it may result in some degree from great prostration of the nervous system in adults, and from a condition of anæmia ; from a long-continued abuse of the sexual organs, and from shocks to the moral faculties of the mind ; in short, from the long continuance, or from the sudden and profound influence of any causes which tend to produce an exhaustion of nerve energy, and thereby destroy the expectancy of hope and the power of anticipation.

A young mother of a highly sensitive and nervous tem-

perament, after a protracted or instrumental labor, passes into a condition of violent excitement, which may continue during a few days, and then she may fall into a condition of stupor, which may continue for months.

A young woman, who, perhaps, has never been a dozen miles from her father's house, is induced to emigrate to a foreign land, where she has been told it is easy to secure a living and lay up money. After arriving, she finds herself among strangers and helpless. She is unable to find employment, and, perhaps, even to make her wishes understood. The disappointment is overwhelming; she becomes sad and dejected, and soon falls into a condition of stupor, which remains indefinitely.

In such cases there exists a short intermediate abnormal mental state, and, doubtless, a predisposition; they are not common, and the condition of stupor is more generally associated with one of the stages of melancholia, of which it is the most conspicuous feature for the time being.

It consists in a suspension, more or less complete, of the physical and mental faculties, and is, therefore, a greatly intensified form of the pre-existent apathetic condition which is a feature of melancholia. In some cases there is mental bewilderment combined with exaggerated inhibition; the emotional tone may or may not be of a painful character. The patient is in a condition which may be likened to that of a waking nightmare, in which the apprehension of impending evil may be exceedingly intense, with entire lack of power to make any effort to escape.

It does not usually develop without previous indications. The anxiety becomes less in degree, the hallucinations less vivid, and the false beliefs, which had made so powerful an impression and dominated the course of mental activities and the forebodings, less absorbing. But these changes

are not attended by a return of the mind to channels of healthy activity. The character of the mental concepts does not become normal, only those of an abnormal character become less distinct and fade out ultimately. The mind appears to be void of ideas, or those present are in such a state of confusion and chaos that they are not represented in consciousness with sufficient distinctness to be apprehended or remembered by the ego during any lengthened period. He is indifferent as to his relations to others and to his own personal appearance, so that his apparel is utterly neglected and is only used when it is placed upon him by others.

His sense of shame and delicacy is lost, and the habit of cleanliness, which exercises so strong an influence when in a state of health, is now gone. The presence of danger, even, has little effect upon him, and cases are reported in which patients remain impassive when exposed to death by fire.

This may be the effect of the delusion that they are unable to move, or that they are commanded not to move, and that if they do so they will be subject to punishment or injured by wild beasts. In short, some patients seem to be existing in an inner mental world—absorbed by their imaginations—and utterly unconscious of the world of reality with which they are surrounded, and of their friends who endeavor to minister to their requirements. In some cases the change is so great as to consist in a nearly total suspension of the emotional and intellectual faculties. The will also appears to be in abeyance when the condition of stupor becomes fully pronounced. It is to be understood that there may exist all degrees of this state, from that of merely an apparent indifference, to one so profound as to be mistaken for dementia.

When this condition has become established, it is evident to the most superficial observer that a profound change has come over the state of the individual as evinced in his attitude and physiognomy. While the general lineaments and features of the face remain, yet the ordinary expression which gives more or less character to it, while in the condition of anxiety and depression, is entirely lost. The countenance is almost a blank, while the person remains wherever he is put, standing or sitting, during indefinite periods of time. In reality, movements are apparently attended with much discomfort, and the limbs will remain in most unusual and constrained positions without much inconvenience. The state of stupor, however, does not usually (though it sometimes does) reach that into which the cataleptic passes, and there is absence of all rigidity in the limbs and body.

In other cases there may remain some faint impressions of such delusions and hallucinations as have previously dominated the mind; the patient seeks to hide behind a chair or the sofa or under the bed, where he will remain until forcibly removed. He does not attempt to make his fears known to others except by the peculiar character of his conduct and the expression of his countenance. He will not speak or institute any kind of movement in consequence of anything addressed to him, except physical assistance or force.

Some features of this condition may be illustrated by the case of a young woman who has been under my care. During several months it was impossible to induce her to speak, but she persisted, if left to herself, in remaining seated, or rather crouched, upon the floor, partly secluded in some corner of the hall or in her room, where she would remain for hours, if permitted to do so, in such a position as would

be extremely painful to persons in ordinary health. She would not voluntarily take food or drink, and seemed to be frightened when it was offered to her. She was doubtless dominated by some impressions or voices which commanded her not to take food; or possibly by the delusion that the food contained poison; or, again, by a hallucination of sight by which there appeared to her some foreign substance or vermin in the food. She was largely insensible to pain, and on one occasion, when carelessly placed by her attendant too near the radiator, put her hand upon it long enough to inflict a severe burn and subsequent sloughing of the tissues before the act was observed; yet she did not indicate by word or movement any degree of suffering.

This refusal of food is a very common and characteristic symptom while the patient is in the condition of stupor, and in many cases it results from some deeply seated delusion or hallucination of sight or hearing. When this is the case, the patient will exhaust every effort in the endeavor to avoid swallowing the food. Other cases may experience no craving for food, or have any sense of hunger, and yet will swallow it without resistance when it is placed in the mouth. Patients have sometimes explained, after passing through the experience of stuporous states of mind and recovering, that they were wholly dominated either by voices of persons or by the distressing delusion that they would experience the infliction of torments of various kinds, such as being roasted alive, or being scalped, or plunged in boiling water, if they should move in certain directions, or otherwise fail to comply with what is demanded of them.

There can be little doubt that this mental lethargy is due to morbid changes which have taken place in the brain. This is evinced by the indications presented. For instance,

in many cases the pupils are dilated and quite insensible to the presence of strong light. The sensory nerves are often as much affected as those of motion, and the anæsthetic condition extends over the whole body. The reflexes are absent; the pulse is abnormally slow, and is not much affected by the use of alcohol or other stimulants when freely administered. The circulation of the extremities is imperfect, and in some cases the skin of the fingers and toes becomes blue.

Injuries to these parts remain unhealed for weeks or months, notwithstanding all efforts to heal them. There is now a patient in the Retreat who has had a bruise upon the lower part of one leg which has remained an open sore for more than nine months. The temperature of the extremities, and, indeed, of the whole system, is generally from one to two degrees lower than normal. In a case upon the male side of the Retreat the temperature has not been above ninety-seven and one-half degrees during the past three months, and often lower, which indicates how profoundly the general functions of the nervous system are compromised by the failure of nerve energy; and when this extends to the pneumogastric nerve, food is not only unassimilated, but may remain in the stomach for hours and days undigested. In these cases patients must be sustained by the use of highly nutrient enemata. Dagonet says that ptyalism sometimes exists; in my own experience only one such case has been observed.

As already intimated, there appears to be some difference in the mental condition in cases of stupor. While some are entirely passive, and there is little appearance of anything beyond a vegetative kind of existence, others exhibit some degree of mental activity in the form of delusions. And even in the passive form there may suddenly occur

changes which cannot be anticipated or accounted for, except upon the theory of changes in the circulation of the brain or modifications in the nervous discharges in the sensory centres.

A patient may suddenly arouse from the lethargic condition and attack his attendant or another patient near by, exhibiting an amount of physical strength altogether greater than his condition would indicate. Another may institute an effort to kill himself or to kill others, and exhibit the greatest violence in his act; or again, the change may be indicated by his beginning to converse, or showing a willingness to take exercise, which may continue for a few hours, when he relapses into his former condition. In the latter cases such change may be regarded as a favorable indication, as it is very likely to recur again and again until convalescence is established. It is, however, important to bear in mind the fact that there exists a physical condition which is common to both kinds of mental state, and which is the true basis of whatever kind of mental activity may present itself.

LECTURE VII.

MELANCHOLIA. (CONCLUDED.)

Melancholia with Excitement—Mental Pain and Anxiety—Fixed Delusions—Destructiveness—Self-infliction of Injury—Religious Type of Melancholia—Characteristics—Self-accusations—Homicidal Tendencies—Cases without Delusions—Sudden Changes in Mental States—Suicide—May Result from Hallucinations—Necessity of Great Watchfulness in Reference to all Persons Affected with Melancholia—Medico-legal Aspect of Suicide—An Attempt to Commit Suicide not Necessarily a Proof of Insanity—Some Experiences are More Terrible than Loss of Life and Destroy any Desire for It—Prognosis—Patients May Recover after the Disease has Existed for Several Years—Cases—Treatment—Importance of Removing the Exciting Cause—Change of Scene—Physical Conditions—Abundance of Easily Digested Food—Sleep—The Use of Opium—Artificial Feeding by Stomach or Nasal Tubes—Importance of an Early Use of the Tube when Patients Refuse to Eat—Melancholia as a Symptom in Other Forms of Mental Disease.

There are other cases of melancholia, sufficient in number to form a class by themselves—**Melancholia with Excitement**—which present symptoms quite the opposite of those of stupor. A state of intense restlessness predominates, and patients are unable to remain quiet for a moment. This feature is quite as marked and as characteristic of them as that of stupor or lethargy is of the former class. The mental pain, anxiety, and sadness, united with the dominant influence of deep-seated delusions, seems to impel them to be constantly on the move. The sphere of motor activity is frequently limited, and the patient, if left

to himself, instead of taking long walks in the open air, or of walking with any definite purpose whatever in mind, spends his time in tracing and retracing his steps from one side of the hall to the other in the same line. This will be continued for hours, and even for days, or until the limit of endurance is reached and he becomes exhausted.

Others rush about in the most aimless manner, wringing their hands and repeating over and over some words of regret, and it is as difficult to secure their attention as it is in cases of acute mania. Indeed, patients in this form of melancholia approach more nearly to the condition which characterizes acute or delirious mania, so far as relates to motor excitement. Again, they try to injure themselves in every possible way, by beating the head against the wall or the furniture, or falling on the floor, or throwing themselves down the stairway, screaming in a wild, incoherent manner, under the influence of some horrible delusion. They may endeavor to gouge out their eyes, pull out their hair, hack at their throats, or destroy the sexual organs with anything they chance to lay their hands upon. In such cases the field of consciousness is filled with horrible illusions and consequent delusions as to its present condition and environment, and with fearful forebodings as to what is about to be experienced, and from which the patient seeks to escape.

Such a condition is the source of endless anxiety as long as it may continue, but there is actually much less expenditure of nerve force in the same period of time than occurs in delirious mania, or than would be anticipated from the restlessness and apparent suffering, and if patients can be tided over it, and the useless, misdirected motor force is allowed to expend itself in the open air while self-infliction of injury is prevented, there is a fair prospect of recovery. They do not usually pass into a condition of

stupor or dementia, but, on the contrary, regain the full use of the mental faculties when recovery is established. Such cases doubtless result from the invasion of disease to the ideo-motor centres of the brain. The following case exemplifies the intensity of delusions in such cases and also some of the measures which may be adopted to consummate the suicidal purpose.

S. S., aged thirty, married, has five children, the youngest five months old. Husband has been without work for several months and the family without sufficient food. The disease developed rather suddenly, and there had been no previous attack. The report is that she became violent and attempted to injure one of her children, broke articles of furniture in the house, and then was removed to the town-house. After a few days she passed into a state of frenzy, imagined that she was pursued by devils; twice attempted suicide while there. In the first attempt she endeavored to dash her brains out against the wall of her room; in the second she tried to burn herself. She seized hold of a hot steam-pipe and burnt the palms of her hands so that the flesh hung in shreds; her head was also badly burned, and her face and head covered with contused wounds and bruises. She had no recollection afterward of her attempts to injure herself, and when asked about them could give no explanation. After her removal to the hospital she seemed to be more quiet, but greatly depressed and suspicious of those about her; refused her food, as she said it was poisoned. Nine days after admission, while apparently in a state of great depression, and while sitting with other patients, she suddenly started up and exclaimed that the devils were after her, dashed her head against the wall, tore the bandages from her face and hands, and was restrained from executing her attempt with much difficulty.

There exists still another class which presents a character peculiar to itself, and which requires some attention. In this class the form of delusion and the general character of nearly all the concepts which occupy the field of conscious activity take on a religious type. Religious beliefs themselves are rarely the cause of insanity, even indirectly, unless they become extravagant or perverted in character. On the contrary, nearly all the forms of religious belief in Christian, and even in other countries, are a source of solace and comfort to those holding them, in the ordinary or in the extraordinary experiences of life. But when the brain passes into the super-sensitive condition of melancholia and all impressions become greatly exaggerated in their effect upon it, and the course of thought for any cause tends toward a religious obligation and belief, especially if the mind has in its past history been profoundly influenced by this subject, it not unfrequently absorbs the whole circle of mental activities. The general mental and physical condition of the patient is that of melancholia, only the subject matter of thought pertains largely to the past experience in reference to religious beliefs, which become perverted and changed into a source of great misery. The patients are constantly accusing and reproaching themselves for what they have done or failed to do; for what they have said or failed to say to others on the subject of religion; for the wicked motives which have been actuating them all their lives, even in the performance of their most sacred duties. They accuse themselves of secret practices and faults of which there has never existed in their past lives the slightest evidence. Women sometimes declare that they have been false to their marriage vows and obligations, at least in their inmost thoughts, and otherwise

abominably wicked. They have had sexual intercourse with the devil, are possessed by him, and are full of all manner of uncleanness, when there has never been a shadow of reproach against them. Indeed, the more pure and exalted has been their antecedent character, the more likely are such persons to exaggerate statements as to their wickedness and perversity of character toward God in their disordered condition.

They are also constantly in fear lest they are about to be punished for their delinquencies. They regard themselves as objects of scorn to their fellow-men, and, therefore, they must be much more so in the eyes of the Supreme Being, and in consequence are in danger of eternal punishment. Such views are expressed more often by women than by men, and, I think, by those in whose early religious training the idea of punishment was made prominent. The parental relation of the Supreme Being toward all mankind was rarely alluded to, while the attributes of justice and power were constantly dwelt upon. In children having impressible and sensitive nervous systems, such instruction often makes a much more profound and long-continued impression than those imparting it imagine or desire to produce. In fact, the effects never wholly pass away from the brain in some cases, and when the system becomes unusually sensitive, partially anæmic, and in such a condition that all subjective and objective impressions are greatly exaggerated and persistent, then it is that these old impressions which have, perhaps, lain dormant for years, or have been but dimly remembered, awake into vigorous life again and hold sway over the currents of thought. In some of these cases there exists a greatly perverted state of moral sensibility, which leads to the necessity of extreme care;

they become, at times, dangerous to everybody who may have anything to do with them, as well as to themselves; they are both homicidal and suicidal.

Finally, cases of melancholia sometimes come under the observation and care of the physician in which no delusions are manifest, and it is quite impossible to discover any lesion of the intellectual faculties. The person is quite clear in his perceptions as to his relations with others and his own affairs, but the moral sensibility appears to be *nil*. He has become utterly negligent, careless, and quite insensible to any appeals which may be made to him by others; he appears to have no will-power; is apathetic, and entirely heedless concerning his dress and personal appearance. Persons who have been the most punctilious and precise in the observance of the amenities and conventionalities of society and have been very fond of being much in society, pass into a mental condition that is quite the reverse of what has before existed.

An interesting feature of these cases is that they are thoroughly conscious of the change which has occurred; may even greatly regret it, and become sad because of it; reason about the change and the present state clearly enough, and explain it to others, but at the same time declare that they are utterly helpless to make any effort to remedy the difficulty; it is altogether impossible for them to again take up their former habits of thought or physical activity.

The general physical symptoms which exist in the milder forms of melancholia are present. There is a semi-paralysis of the motor nerves, or of the motor areas of the cortex, and all movement is unpleasant and requires external aid for its accomplishment.

There exists a tendency in some of these cases to quickly

become profoundly sad and depressed, and it is then but a step forward when they pass into a mental state in which the thoughts become vague and confused and the physical sensibility greatly lessened. The sequelæ of this change are generally some forms of physical disease. The organs of assimilation become impaired, the digestion faulty, the circulation feeble, and, within a limited period, some form of organic disease appears, the precise nature of which it may not be easy to determine.

Suicide.—Another of the very important conditions which is present in a considerably large per cent. of cases is an indifference as to living, or a positive desire to die. The usual zest of existence which pertains to all forms of animal life, and is one of the deepest and most permanent of the instincts, is in abeyance, and the patient experiences no pleasure in life. In the milder and less pronounced forms of the disease this indifference may remain simply an indifference, while in other more serious cases persons will express a desire and even a longing for death, but fear to die. They have no right to life, and are too worthless to live, and would not longer live,—

“ But that the dread of something after death—
The undiscovered country, from whose bourn
No traveler returns—puzzles the will,
And makes them rather bear those ills they have,
Than fly to others that they know not of.”

But in a certain proportion of the more grave forms of the disorder, the mental pain overmasters all fear or dread respecting the future and all other considerations, and impels the unhappy patient forward to every effort to execute his suicidal impulse. Suicidal tendencies may exist in other forms of insanity, but they generally arise from a spirit of recklessness or an absolute dethronement of reason, rather

than from any definite or fixed purpose. In melancholia, however, the patient broods over the purpose until it becomes "a sweet morsel" to his imagination, and no effort is left untried to accomplish his morbid purpose.

Not unfrequently patients are impelled to make suicidal attempts by the influence of hallucinations and delusions. They hear voices from heaven at times commanding them to drown or hang themselves. Some feasible method of accomplishing the deed is suggested to the mind by seeing an instrument by means of which it could be done. Thought is arrested and lingers upon it; the purpose begins to be formed, when suddenly a voice is heard in the form of a command which hastens the effort to accomplish the design. In other cases still, persons believe that they are being pursued by their enemies or by officers of the law in order that they may be publicly disgraced, or executed in some ignominious manner, and to avoid this they try to end the scene and trial of life. Hence, the importance of the utmost watchfulness in the care of all persons in whom such indications have been exhibited, as the purpose may be executed in a very simple manner. Such cases are frequently met with outside of asylums, and the reports of them are spread on the pages of the daily newspapers.

It should not be understood that those persons who speak freely of suicide to others are those most likely to commit the act. It is rather the reverse of this, and those who threaten the most are really in less danger of effecting their purpose than some others are who never divulge the existence of the inclination. There are others still, who make but an abortive attempt; they use some knife or scissors so dull that it is evidently impossible to do much execution; or they try a cord so small that it is sure to break before

they are harmed. In the progress of the disorder, however, the half-formed purpose may harden into a deep and persistent resolve. Hanging and drowning are the methods most frequently adopted, while shooting, poisoning, and cutting come next in point of frequency.

The subject of suicide sometimes becomes important in a **medico-legal point of view**. The question is not unfrequently raised as to whether suicide is not always an evidence of insanity, and of itself enough to prove that the person seriously attempting to commit such an act was insane. This view is advocated by some on the ground that the love of life is so innate and powerful an instinct, in at least all the higher forms of animal existence, that it leads its possessor to endure all forms and degrees of pain, and to make the most strenuous efforts, rather than sacrifice it.

While suicidal attempts are generally the result of derangement of mind in this country, it is safe to conclude that generalizations as to what sane persons will or will not do, under almost any conditions of life, are of doubtful utility and may lead us far astray. It is difficult to assert what any special act, *by itself*, may indicate as to sanity or insanity. The act of suicide, as, indeed, almost all other courses of conduct, will be found to be regarded very differently even among persons living in the same country and educated under the same general civil conditions. Much more will it be the case when persons have been educated under the influence of systems of civilization which widely differ. For instance, a woman in India who has lost her husband, formerly, and possibly now, entertains the belief that it is her duty to commit suicide. The Russian officer who feels that he has been insulted by his sovereign, or by one from whom he is forbidden to seek

an apology, commits suicide, having been educated to regard this as the proper course to pursue under the circumstances in which he finds himself. Honor and self-respect are more precious than life itself. In certain countries and certain sections of this country, at the present time, persons believe that when insulted the only thing to do is to kill the obnoxious person or be killed by him, or, at least, place themselves in the way of such results. Personal honor is the first consideration with them, and the love of life is relegated to a secondary position.

Now it would seem far more probable that the ever-changing conditions and experiences which surround many persons—such as grief and disappointment, losses of friends and property, the betrayal of friends, suffering from physical and mental pain with no prospect of relief, remorse for wrong done, seduction and abandonment, helplessness and poverty, dread of public scorn for crime committed—in short, many conditions of life, may be so repugnant and horrible, and cause such keen mental sufferings to persons, as to destroy the love of life and lead intelligently to the choice of death more certainly than such circumstances and conditions of life as related above. And if we add, further, the belief that there is no hereafter, that this life ends all, and death means only peace and eternal oblivion, we can easily understand how many persons may long for it so earnestly as even joyfully to take the fatal step, with no dethronement of reason. The frequency of such occurrences will depend largely upon religious beliefs, educational influences, and the general civil conditions amid which society exists. Therefore, in determining the bearing of an attempt at suicide in its relation to mental soundness, other evidence as to the mental state than the act itself should always be sought for.

The **prognosis**, in cases of melancholia, is generally favorable when the disease has developed rapidly, and is not accompanied by any organic disease. In those cases in which the advent has been slow, or extended over years, with marked intermissions, it is less favorable. When it depends upon any lesion of the brain, whether attended or not with convulsive attacks, the prognosis would be, as in other forms of mental disorder dependent upon such a cause, unfavorable. When it arises in consequence of disease of other organs of the general system, the prognosis will depend upon the character of such lesions. In cases where a state of mental lethargy has existed a long time, and recovery ensues, the preceding physical changes are gradual; the normal sensation of the body becomes again established; voluntary motion becomes more frequent; the appetite returns, and food is digested and assimilated; nutrition is more perfect, and flesh increases. In proportion as these physical changes occur, the mind returns to its channels of normal activity.

Patients may die from the supervention of some acute or local disease affecting any of the organs of the body, such as dysentery or carbuncle, etc. The patient has little resistive power and speedily succumbs to the development of morbid conditions of the general system, which, in a state of mental health would have very little effect.

There is one peculiarity which is often observed, and, indeed, is nearly always present during the progress of recovery in simple melancholia, which is, that the patient is rarely or never willing to admit that he is better, or that there is any prospect of ultimate recovery. On the contrary, he is always prophesying that he will never recover. But when once his health has become established, he does not hesitate to speak freely of his

experience of ill health, nor does he exhibit any such sensitiveness about it as is generally found in persons who have recovered from other forms of mental disorders.

Patients with melancholia more often recover, after the disease has existed during a long period, than those with other forms of mental disease. A case was under the care of Dr. W. H. Buel, of Litchfield, Conn., during several years, and was not known to have spoken a word for twelve years, yet he finally made a good recovery, and again entered into large business relations. A patient was discharged from the Retreat in 1882 as recovered who had been ill between four and five years, and has since remained in good health.

There was a case in the Retreat, admitted in 1873, which illustrates the importance of continued expectation of recovery even after a long period of profound mental inactivity and melancholic stupor. It was in a woman thirty-six years of age, who was under treatment between two and three years, and had been in a condition of melancholia for nearly a year prior to admission. During two years and three months she rarely spoke or opened her eyes. She did not, voluntarily, take one step, and passed each day lying on the sofa, to which she was carried or assisted every morning from her bed, except when carried out-of-doors to remain for a sun-bath. She apparently suffered little bodily pain, and slept well at night. She was regularly fed with a stomach tube three, and a part of the time four, times a day after her admission for two years and three months, and never could be persuaded, by any means, to take either food or drink in the ordinary manner. During the last few months there were indications of a partial paralysis of the left side of the body; she could,

however, move both the arm and the leg, though in a less degree than those on the right side.

She was always cleanly in her habits, and signified her wants by a peculiar moaning sound. Her case certainly appeared unpromising, both from the length of time it had continued, and the evidence that nervous centres were organically affected. At this time it was decided to use other measures with the view of stimulating the central nervous system into greater activity. This consisted in the daily application of ice directly to the spine over the fourth, fifth, sixth, seventh, and eighth vertebræ, and the ice was held in position during ten or twelve minutes for ten days. After some six or seven days the attendant reported that the patient was beginning to give some indications of increased mental activity. At the expiration of twelve days she was exhibiting unmistakable indications of improvement as evinced by making requests, replying to questions, opening her eyes and noticing persons when they were speaking to her. The application of ice was omitted for several days and again used with indications of more marked improvement than before. This treatment was continued for five or six weeks with daily indications of increased intelligence and interest in those about her and what was done for her. She began to eat solid food when it was put into her mouth, and at the end of seven weeks fed herself. She conversed freely and intelligently from that time, read the papers, and became anxious about her children and friends. She said that she had very little remembrance of what had occurred since she came to the Retreat, that nearly all was a blank, but that she remembered occurrences prior to her stupor. She soon became anxious to regain the power of walking, and began to try with the aid

of an attendant. At the end of ten weeks she had so far recovered that she was dressed regularly, remained up all day, ate well, talked cheerfully with the attendants and friends, and was looking forward with much anticipation to going home.

At this time she was visited by her husband and youngest child, conversed with them freely, and seemed in remarkable spirits, and when she bade them good-bye said that she should be ready to go home whenever her husband should come for her. Two days later, she arose in the morning and dressed as usual, expecting to return home, and walked to the window to look out. She was suddenly seized with an apoplectic attack and died in thirty minutes. The excitement of anticipation, acting upon the abnormally sensitive condition of the brain tissue, was too great, and caused it to give way; or the emotional excitement might act indirectly upon the brain by causing increased action of the heart, thus producing a rupture of the coats of some vessel in the brain. The case illustrates what may sometimes occur even in the most unpromising cases.

It is not easy to predict what cases will or will not recover, except when there are decided indications of organic change in the brain. A long continuance of untidy habits, a failure of the system to respond to the administration of nourishment, and a state long continued with fixed ideas as to persecution, are of unfavorable significance. Age is also an important factor as to the prognosis. Young persons are much more likely to recover than old ones; indeed, recoveries among patients who are past sixty-eight or seventy are very rare.

Treatment.—In melancholia treatment both by medication and management is of the first importance, especially in the initiatory stages. First, endeavor should be made to

remove as fully as possible the exciting cause or causes, by means of a change in the daily surrounding and avocations. For this purpose travel and visits to places before unvisited will be of the highest service. Still, the change should not be too radical, and persons should not be too far removed from home and friends, or to countries where the customs and habits of life are too greatly at variance with those to which they have been accustomed. The experiences and fatigues incident to travel in a foreign country should be avoided, except in such cases as have formerly experienced them and have already acquired a taste for them. Seek for such changes as will arouse the curiosity and excite the interest, and thus turn the mind into new channels of thought and purpose.

A traveling companion who can tell a good story, is not easily excited or discouraged, and is always looking on the bright side of experiences, is the desideratum when the initial period has passed.

When the disorder has become pronounced, it is especially desirable to remove the patient from the society of his friends and family, and in nearly all cases to an asylum for special care, change, and treatment. Such a course should be taken as a precaution against suicide, as well as to ensure the most efficient means of treatment. The exhibition of a deep interest in the improvement of patients, and the manifestation of sympathy and friendly feelings, are often of service, especially during the period of convalescence, and appear oftentimes to be more effectual than any other means to rouse the patient to make an effort toward aiding himself in recovering a state of hopefulness. The **moral** treatment of all forms of insanity is of the first importance, and especially is this the case in simple melancholia. It is very certain to accomplish more in the

majority of cases than can be done by the administration of drugs. In proportion as patients can be induced to engage in games, or visit places of amusement, and, still better, to occupy themselves in some form of light work and to be much in the open air, may favorable results be anticipated.

Second.—Seek to restore to normal activity any of the secretory organs which may be deranged. This may be attempted by means of saline laxatives, mineral waters, prolonged warm baths, laxative food in abundance, the use of fruits, and stomachic tonics in the form of dilute muriatic acid and quinine. Food should be taken several times daily, and such as is of highly nutritious character. Active purgative medicines and so-called cholagogues should be avoided, and, if necessary, movements of the bowels should be secured by means of injections. Remedies for this purpose should be addressed toward the removal of the primary cause, which, in the majority of fully developed cases, is exceedingly difficult to effect.

Third.—Endeavor to secure several hours of sleep every night. Changes of scene will aid in doing this and, if the patient is able, a large amount of gentle exercise should be taken in the open air daily by walking. By such patients as have been accustomed to sedentary habits of life, several hours spent in riding, or in some form of moderate exercise, will indirectly conduce toward this object from its influence upon the circulation. In some cases whisky diluted with water may be of service, and in all cases the bromides hold high rank as efficient agents. Opium, in the form of Squibb's deodorized tincture, may be combined with the bromides with much advantage at times and for short periods.

There are some cases which may be greatly benefited by

the regular and systematic use of opium, administered in from twenty to sixty minims of Squibb's deodorized tincture three times a day. It appears to partially anæsthetize the supersensitiveness of the brain, and thus relieves the mental pain. It probably also exercises an influence upon the vaso-motor system of nerves, and thus indirectly increases the circulation. Opium may be used for weeks in this way, thus greatly relieving the suffering of the patient without disturbing the organs of digestion. As recovery advances it may be gradually diminished and abandoned without future inconvenience to the patient and with little or no danger of establishing the opium habit in the system.

The systematic and regular administration of food is of the first importance in melancholia. The patient will declare that he has already taken too much food, that it only causes irritation in his stomach and bowels, etc., etc., to all of which no attention is to be paid. A large amount of farinaceous and easily digested food must be taken during each twenty-four hours. It is better to take it in divided doses, so as at no time to overload the stomach. The tendency is to lose flesh and become emaciated; the nerve-centres are imperfectly nourished and consequently have an insufficiency of energy; hence, when the patient once begins to increase in adipose tissue, it is a most favorable indication, and one looking toward recovery. When the digestion is not good, broths, soups, with milk and eggs, may be given with ale, together with fish and easily digested meats.

Artificial Feeding.—As patients affected with melancholia, more often than others, require to have food introduced into the system by artificial means, it may be appropriate to refer to the subject at this time. The refusal to take food may arise from different causes in

different cases; in some, from the delusion that all food offered or provided for them is poisoned; in others, from the presence of hallucinations of hearing; they think voices are heard commanding them not to eat, and that serious results will follow if they do; others imagine that they perceive things in the food which render it unfit to eat. The refusal of food may also arise from indifference to life, and from the fact that patients experience no craving for it, etc.

It is important to ascertain, if possible, for what reason food is refused, especially in patients recently received in an institution, and if it be from a general suspicion of those immediately about them, it will be well not to insist at once upon the patient's eating. It will be better to gain the confidence of the patient and allow him to follow his own inclination in the matter for awhile. Food of a tempting character may be left in the room, and opportunity afforded to eat when there is no one about to observe. In some cases such a course will prove best; suspicions will be allayed and a sufficient quantity will be used.

In other cases it will be necessary to introduce food to the stomach against the wish and earnest protest of the patient. This is usually done in one of two methods—that is, by either a strong though flexible gutta-percha tube introduced through the mouth to the stomach, or by a soft and very flexible rubber tube introduced to the stomach through one of the nostrils. In some persons the muscular tissue and the soft parts immediately about the fauces are very sensitive to the presence of any unusual foreign substance, especially if it is hard. The stomach tube may, therefore, cause very strong contractions of these parts, and it will generally be better to use the nasal tube in such cases. Indeed, I have, for many years, been

in the habit of using it in nearly all cases, as it appears to occasion less annoyance. It also avoids the necessity of using force to open the jaws by means of some kind of wedge or lever, as these are generally held very firmly together. There, however, exists, probably, a little more danger of the nasal tube passing into the larynx from the posterior nares than of the large and less flexible tube usually used for passing through the mouth; but, with requisite care, this very rarely happens, and the use of the nasal passage produces less irritation in most cases.

The food intended to be introduced into the stomach, which may consist of beef tea, beef extract, milk, or milk and eggs, with such medicines and stimulants as may be desirable, should be placed in a bottle designed for the purpose and made ready for use before the introduction of the tube. This being in readiness, and the tube being introduced, its free end should be pressed over a small nozzle which protrudes from one side of the bottle very near its lower margin. The bottle is then raised, and the contents at once pass into the stomach. This method is much more easy of execution, and more satisfactory in my experience, than the use of a pump and a stomach tube.

In some cases the irritation caused by the presence of the tube at or near the cardiac orifice of the stomach causes emesis, and what has been introduced is immediately rejected. In other cases the stomach does not digest the food introduced, and after a longer or a shorter period it is vomited. Under such circumstances the system may be supported for days, and even weeks, by the use of nutrient *enemata*, introduced to the rectum every four or five hours. I recall instances in which the life of the patient has undoubtedly been saved by this means. It may also be better for some persons who are very sensitively

organized and easily frightened; also in cases of females during the first few days after admission to the asylum, as the enemata may be administered by the attendant or the supervisor.

The importance of avoiding a too long delay in resorting to some method of artificial feeding when food has been refused can hardly be overstated. In nearly all such cases the patient has taken a scanty amount of food for a long time before it has been utterly refused.

Dr. Todd, the first superintendent of the Retreat, was accustomed to use iron very freely in the treatment of melancholia. He compounded a special preparation, and it has since been known as Todd's Mixture. I have failed to derive much benefit from its use, or that of any other preparation of the drug in this form of disease, and now rarely use it. On the contrary, I use strychnine, hypophosphites, arsenic, and, I believe, often with benefit.

It is important to bear in mind that melancholia, as a symptom, may be present in other forms of mental disease, for instance, in epilepsy, general paresis, senile insanity, and in one of the stages of folie circulaire. This symptom being the most prominent one in the form of insanity described above, properly determines its nomenclature.

LECTURE VIII.

MANIA.

No Invariable Standard of Mental Activity—The Frequent Changes in the Physical System—Epochs of Life—Inhibitory Centres First Affected—Delirium—Definition—Ætiology—Profound Moral Impressions—Instability of Brain Structure—Mode of Invasion—Preceded by Feelings of Lassitude and Depression—In some Cases, however, the Disorder Announces Itself by Marked Excitement—Physical Symptoms—Contrast Between those of Mania and Melancholia—The Physiognomy—Pupils—Increase of Motor Activity—Tongue—Physical Strength—Anæsthesia—Insensible to Fatigue—Increased Flow of Blood to the Brain—Increase of Appetite—Excitement of Sexual Centres—Catamenia—Insomnia—Sensorial Derangements—Hyperæsthesia—Hallucinations—Illusions—Mental Symptoms—Memory Quickened—Rapidity of Speech—Conduct is Mainly Impulsive, or of an Instinctive Nature—Element in Thought—Change in Character as Evinced in Conduct of Business and in Home-Life—Importance of Knowing the Full History of such Cases in Forming a Diagnosis—Convalescence.

As the term melancholia has been used from time immemorial as a synonym for sadness, dullness, and diminished mental activity, so, in like manner, has mania been used as a synonym for continued hilarity, excitement, and increased mental function in any special direction. Both depression and excitement may, and often do, exist without any morbid basis and while the brain is in a condition of health. There can be no unvarying standard of activity in mental operations. Every individual may be said to be, in this respect, a law unto himself and limited by the constitution of his central nervous system. A degree and a

continuance of excitement which might rightly be regarded as abnormal in one person, would not be necessarily so regarded in another. There exist wide departures in these respects, at times, in every person, in either direction. The ever-varying conditions of the physical system have a large influence upon the brain, not only in respect to the amount of its function, but also in respect to its quality and its facility of action. Concentration of attention, continuity and perspicacity of thought, are greatly more difficult, and often retarded when certain bodily conditions of health exist, as compared with certain others in the same person. Different periods of life also greatly modify the character and quality of brain activities, especially in the female. There also exists a very wide range of difference in this respect among different nationalities. While, then, such changes in the ordinary conditions of mental activities are the first indications usually observed in cases of melancholia and mania, yet they are of little importance when considered by themselves, as other elements of change are always found to accompany them.

Having studied in the preceding lecture the morbid states of mind termed melancholia, with its large variety of departures from a normal standard, all of which represent conditions of depression combined with painful emotions and a self-consciousness which has become abnormal in character, united with an aversion toward, and even an incapacity for, physical exertion, we now turn toward its opposite—viz., **mania**. In this disorder the inhibitory centres are the first to become affected, and there exists an unusual freedom of action which manifests itself in the affective faculties rather than in the intellectual. The impulses become stronger and are less easily restrained, until there is established a more or less continuous excitement,

attended with an exaggerated self-confidence and an unusual energy of will.

The essential primary element, therefore, in maniacal conditions of the mind consists of some lesion of the emotional department of the brain which results in an increased quantity of psychical activity, and in a derangement and confusion of thought, attended at times with delusions and hallucinations, together with an increase of muscular activities of various kinds. Whether the development of the maniacal state is the result of an extension of the morbid condition of the brain which nearly always precedes it, *i. e.*, that of depression; or whether it be due to changes of another character, *de novo* in the brain; or, again, to the invasion of additional nerve-centres, is not easy to be determined. The latter view is more probably the correct one.

It is important to bear in mind that such increase of mental action and restless motor activity are not confined to cases of acute mania. A derangement of emotional energy, similar to that which arises from the presence of delusions and hallucinations, is sometimes present in cases in which there exists a profound failure of the mental faculties. The same is true, at times, in acute inflammation of the meninges of the brain in delirium tremens and in typhoid fever.

Definition.—Mania may be defined as consisting in *a morbid excitement of the affective faculties, which discloses itself not only in a prolonged increase of psychical functions, but also in increased muscular activities, impairment of judgment and self-control, with change of character.*

Ætiology.—Profound moral impressions, physical ill health, reverses in fortune, loss of property, disappointment in love, seduction and abandonment, and, in short, such

experiences as deeply affect the emotional faculties of the mind. In the large majority of cases however, there exists back of these exciting causes the predisposing one, viz., an unstable constitution of brain structure, which may have been inherited from parents or grandparents, or may have been the result of former ill-health, or the practice of vicious habits of life.

Mode of Invasion.—In the large majority of cases the condition of maniacal excitement is preceded by one of depression. It is afterward remembered that during several weeks or months, the patient has exhibited a change in his feelings and character; his likes and dislikes; has been moody and fitful, irritable, has not slept well, and has complained that something was wrong. This is gradually succeeded by nervousness, restlessness, discontent, talking to himself, and in some cases by hallucinations of hearing. Those who have passed through one or more attacks of mania, generally recognize these indications, and not unfrequently declare the belief that they are again to become insane.

According to some authors, some such incubative stage of melancholia (*stadium melancholicum*) nearly always precedes the development of mania, and may come to be regarded as constituting a part of the symptoms. But there can be no doubt that the disorder arises in some cases with no antecedent conditions of depression sufficiently well marked to have attracted the attention of friends or physicians. It may arise in this manner from sudden fear, moral injury, excess in the use of alcohol, and from the practice of venery. It announces itself at once by marked physical and mental excitement. In such cases there may have been some pain in the head, and inability to sleep as much as usual. The latter symptom is one of the most

persistent, and generally one of the last to disappear. Sometimes cases are ushered in by a stage of more or less febrile excitement, with loss of appetite, loathing of food, and increase of temperature, unpleasant dreams, loss of flesh, constipation, and abnormal sensations, etc. These conditions, however, pass away as the disease declares itself, and the patient becomes abnormally insensible to his surroundings and experiences.

Physical Symptoms.—The contrast between the physical conditions present in mania and those existing in melancholia is certainly most marked, and when the disorder has become fully pronounced, becomes especially apparent in the countenance and the whole bearing of the patient. The physiognomy, instead of being pinched and thinner than in health, becomes fuller; the capillary circulation is increased; the eyes become brighter, more expressive, have an increased freedom of movement, and, at times, under the influence of excitement, are protruding; the pupils are, in some cases, contracted, and in others dilated, and, in the same case may vary from day to day, and even from one part of a day to another; they appear to be more sensitive to the presence of light than in health, especially in the early period of the disease. The body becomes more erect and assertive when walking or standing, the patient becomes careless as to personal appearance, and the dress is disordered; the hair unbrushed, and, in some cases, dry and stiff; the voice is pitched in a higher key, and the words flow rapidly and freely, and are attended with gesticulations of the body, arms, and hands; the tongue is usually coated in the early stages of the disease, and the skin is dry, unless in exceptional cases in which there may exist a most disagreeable odor.

In connection with these physical changes, there is another

which is one of the most prominent in cases of acute mania, viz., **an increase in muscular movements**. This is especially observable in that portion of the muscular system which is under the control of the will ; the patient rarely remains quiet, or in one position longer than a few minutes at a time ; he is on the move, and all movements appear to be executed with the greatest ease and freedom, and without apparent fatigue. The amount of this activity, which delicate females and aged persons are able to make while under the influence of maniacal excitement, is almost incredible ; persons who have, for years, been accustomed to a sedentary life, and who are ordinarily, when in health, fatigued by walking a short distance, when under the stimulus of this excitement will pass days and nights during weeks with almost no rest for the muscular system or sleep for the brain. The demand of the system for rapid and energetic activity appears to be most imperative ; this is merely the outward expression of the storm which is raging within. In some cases it expends itself in a harmless manner, as in dancing, running, singing, and shouting, while in others the movements, as in a paroxysm, become suddenly violent in the extreme, and expend themselves upon whatever first comes within reach, without reference to consequences to either persons or things. The patient neither rests himself, nor suffers those about him to rest.

This continued and excessive expenditure of physical energy, sometimes continuing for weeks, and even months, has been thought to indicate an increase of strength, as compared with that pertaining to a condition of health, but in reality there is no such actual increase ; the explanation lies in the fact that the person has become partially anæsthetic, and, consequently, insensible to pain and fatigue ; he can be controlled easily by an attendant who is of much

inferior strength when both are in a state of health ; and though able to make exertion continuously for a long time, is totally unable to exhibit any unusual amount of strength at any one time.

In the primary stage of a majority of cases there exists an **increased supply of blood in the brain**. This is indicated by the distended condition of the capillaries of the face, the congested state of the conjunctivæ, and the feeling of fullness and heat in the head, which may amount to actual pain. The temporal arteries pulsate with more than usual distinctness, but the action of the heart itself is not much above the normal as to frequency of pulsation, unless in exceptional cases and during short periods. It has not occurred to me to find the pulse slower than usual in cases of acute mania, and it is not strong, after the first stage has passed, but may be fuller than normal. In the majority of cases the frequency of respiration is normal, and the temperature rather lower than in health. According to Griesinger, the only exception to this is in the case of maniacal excitement which sometimes attends general paralysis, when the temperature of the body may become increased.

In nearly all cases there exists an abnormal condition of the **appetite**. This may be either *diminished* or *increased* or *perverted*. More often it becomes greatly increased, and large quantities of food are taken, though without much apparent appreciation as to the usual satisfaction arising from using it. It is the *quantity* rather than the *quality* that is desired, and, indeed, made necessary by the expenditure of physical force. The **taste** may become so perverted as to lead to eating the excrements, and a special satisfaction seems to arise from besmearing the face and person, or the walls of the room with them, in much the same manner as certain animals eat, or rub their bodies in, the excre-

ments of other animals. Such conditions may be present during days or weeks, and yet the patient pass into a convalescent state within a short time.

In a considerable number of cases there exists a **morbid excitement of the sexual centres** of the brain, which causes patients, and especially women, who have, when in health, always exhibited the greatest delicacy of speech and modesty of bearing, to become vulgar and indecent in speech and lascivious in manner.

It leads, not infrequently, to the practice of masturbation in both sexes, and in males in the most open and shameless manner. The mistake is sometimes made of supposing that the disease is a consequence of various vicious practices, whereas, in reality, it is the cause of them.

In the majority of cases the **catamenia** ceases after the first month of excitement, and does not again make its appearance until recovery has become established. After the disappearance of the catamenia the morbid sexual manifestations are less common. Its disappearance, however, has no apparent effect upon the mental excitement, and is significant only as indicating how profoundly the brain centres are demanding the nourishment of a large amount of blood, while its reappearance indicates that there is a return to normal equalization of the blood supply of the system. In those rare cases in which the suppression of menses precedes the manifestations of mental symptoms, it cannot be regarded as the cause of the disease, but simply as a physical symptom occurring earlier than usual. Cases in which there is a sudden suppression of the menses from the effects of cold, wet feet, or sudden fright during the discharge, and there appears a delirious condition of mind, are to be regarded as of quite another character of disorder.

Cases of acute mania in which the **sleep** is not greatly disturbed are the exception. In fact, **insomnia** is one of the most constant and troublesome of conditions which present themselves for management during the continuance of the disease, and it is an interesting physiological question why greater injury does not result to the delicate tissues of the brain when it passes such long periods of great mental activity with so little rest. Such experiences in the brain when in its ordinary state of health would certainly produce most serious results to the whole system, and would prostrate the most vigorous person. The explanation, without doubt, is contained in the changed blood supply of the brain.

Allusion has already been made to the indications of this great change, and it appears to be sufficient to repair the large exhaustion which must be constantly going on in the sensitive tissues and nerve-cells of the brain, from both the physical and psychical activities occurring. It is, however, of the first importance that the patient should not pass even one whole day without some sleep, and half an hour, or even ten minutes, are of great value as a remedial agent. A return to or an approach toward normal periods of sleep is one of the surest indications of returning mental health. As a rule, it requires a long time for the brain to resume its normal habit in this respect, even after all the mental excitement and delusions have passed away. Wakefulness is generally one of the earlier indications of approaching disease, and one of the first about which the patient will consult his physician. It may then present an opportunity for timely advice in avoiding the threatening disorder.

Variations in general sensations may manifest themselves in **hyperæsthesia**, but much more frequently in

partial **local anæsthesia**. There may be headache, pain in the limbs, sensations of heat in various parts of the body, but after the condition of mania has become fully pronounced, complaints in relation to such experiences are rarely made, and patients are quite insensible to exposures to degrees of heat and cold, as well as to physical exertions, which would be exceedingly objectionable and painful when in health.

Hallucinations of the special organs of sense, particularly of hearing and smell, are present in from one-third to one-half of the cases of acute mania. This would be anticipated from the increased susceptibility of those organs. All irritations received upon them become exaggerated, and are transmitted to the sensorial centres with abnormal rapidity, so that a mistaken interpretation of their significance would be expected.

For a similar cause, **illusions of sight** are especially frequent. Persons are continually mistaking those whom they meet for those whom they have known in the past; they assign forms and dimensions to objects and animals strangely at variance with the reality, and are constantly misinterpreting the surrounding phenomena. These derangements of the sensorial centres have been observed to be more frequent and more exaggerated in the initial stage of maniacal excitement. They frequently reappear after having ceased with a return of mental excitement.

In acute mania, and while the appetite is so keen that large quantities of food are daily used, patients may pass several weeks without much emaciation. When patients refuse to take food, and are not made to do so, indications of a loss of flesh and exhaustion soon become apparent. They also appear when an abundance of food has been used, after a long continuance of the active symp-

toms, and especially in cases when the system, at the inception of the disease, was in an anæmic condition, or one of debility from the experience of other diseases, or from protracted application to labor, shocks to the nervous system, sorrow, etc. Whether the disease will prove to be of a sthenic or asthenic type will depend largely upon the antecedent experiences of disease.

The more prominent physical conditions which present themselves in acute mania have now been indicated. The relative importance which any of them may assume will vary very considerably in different cases, but they will certainly require the most careful observation and study of the physician from day to day.

Psychical Symptoms.—It has already been remarked that patients do not often become excited and maniacal without other previous indications of mental ill health. These are generally similar to such as exist in the early stages of melancholia. Indeed, it is extremely difficult, if not impossible, to determine in the outset whether a given case may eventuate in one of melancholia or mania, and several weeks, or months even, may be necessary to determine its future character. In cases of mania, however, it is generally true that within a short time a considerable measure of restlessness and increase of motor activity present themselves, while still the mental depression may continue. While the melancholiac is inclined to remain quiet, and will not be induced to make much physical exertion, the maniac, without suggestion, is disposed to wander about, leave his home, visit his neighbors, and even strangers, without any definite aim or purpose; he becomes more loquacious than before and speaks in a clearer and more elevated tone of voice, complaining of such discomforts as he may have experienced from the

imagined neglect of friends. As the sensations of discomfort disappear, a feeling of satisfaction and good will toward every one becomes manifest. The person who is naturally cautious and timid becomes frank and fearless in bearing. The penurious become more generous and even lavish in expenditures and benefactions. New enterprises and schemes of business become the themes of thought and conversation, while the patient rejoices that all his discomforts have disappeared, and that he was never better in his life.

The progressive transformation from a semi-depressed, emotional condition to one of exaltation and excitement may occur either slowly or quite rapidly. In either case the emotional sensibility is the first to become seriously affected, and indicates the change from a state of mental health to one of disease. The mind begins to act with an unwonted freedom and ease ; occurrences and names which, perhaps, have not been thought of for months or years come back without conscious effort, and with all the distinctness and perfectness of their first experience. Pieces of poetry and history and snatches of song which have not been recalled for years come welling up into consciousness and demand utterance. They may be recited even with a much greater accuracy and readiness than when in health. Ideas flow through the brain channels with the largest freedom, and form themselves into words without effort or will. In fact, during the initial stage, and after all feelings of depression have passed away, the action of the mind becomes largely automatic, all the faculties tend to become highly excited and quickened in activity ; the memory of former events becomes more distinct, the imagination more excited, and the mind becomes filled with

a torrent of images and memories, or false perceptions of the special senses.

As the disease progresses the excitement may increase, and anything like clearness of thought and an accurate estimate of what may be said and done disappears. All thoughts pass so rapidly through the brain as to leave very little impress behind, so that the patient appears to be only semi-conscious of the character of his experiences, and not infrequently greatly exaggerates and misrepresents them. Certainly, whatever impression he may have of them becomes obscure and tends to rapidly disappear, while he gives the freest play in recounting such imaginary or real past experiences as pass into the field of mental vision, and in forming and expressing approval or disapproval of persons and events.

At first these concepts may appear with considerable order and distinctness, and be announced with some appreciation of their relation to the subject-matter occupying attention; but as the disease extends into new areas of the cortex, and as the excitement becomes greater, they rapidly change from one subject to another, and have very little true volitional relation. Indeed, they are often projected without any conscious will, and even against it. Still, it will be found upon careful observation that the flow of mental concepts frequently has some relation to the experiences of the individual in the past; it may be the occupation in which he has been engaged or some subject which has exercised a profound influence upon the mind, such as religion or politics or an object of past affection. Arising as they do without the conscious action of the will, and from the instinctive or acquired character of the brain, we should expect them to relate to such subjects to a

greater or less extent. While there may be, during great excitement, confusion of thought, which arises from the rapid flow of it, yet, on the whole, there is not an absolute loss of coherence of ideas except in cases of delirious mania.

Both Jacobi and Griesinger have called attention to the fact that the general conduct of the maniac is wholly **impulsive or of an instinctive nature**, and that it is without any properly conceived plan or purpose on the part of the subject. This results logically from the condition of excitement which covers the field of mental activity. That element in the formation of mental concepts which results from the automatic activity of the brain during consciousness, and which, united to the conscious ego in health, combines to form a definite act of judgment and purpose, is freed largely from the latter element of character, and the thought-process moves on without restraint, eventuating in words and acts of the true character of which the subject has very little conception. Purpose and will require deliberation on the part of the conscious ego which is altogether incompatible with the increased activity, rush, and whirl of the multitude of concepts which occupy the field of mental action. These concepts, therefore, pass on in the psychical circle, and combine in such words and acts as instinctively arise from the conditions of the brain for the time being. It is as if a veil were thrown over the mental vision which obscures or blinds the subject as to the moral element of conduct. Such sentiments as have never been allowed to find expression, nor have been long even tolerated in the field of consciousness, not infrequently take full possession, and the modest woman or girl, who has never in her life spoken an obscene word or harbored a lascivious thought, becomes vulgar and lascivious in lan-

guage and conduct, throws off her clothing, and exposes her person without a moment's hesitation. The person who has always, when in health, been quiet, undemonstrative, and inoffensive, suddenly becomes quite the opposite, and is ready to match his strength with any attendant or physician he may chance to meet.

In other cases of no less pronounced character, the degree of excitement may be much less, but at the same time the conduct is **without any moral basis**. Indeed, the moral blindness is still greater. The person understands quite well, for the time being, what he is about; that he is not telling the truth, but, on the contrary, lying; that he is doing what he should not do; that he is dirty, boisterous, destructive, abusive in language, and that he is doing it to provoke and annoy those who have the care of him. He endeavors to invent all sorts of methods to provoke everybody with whom he is associated; he throws off all restraint and urinates and defecates on the floor; smashes his furniture into pieces, not in any blind excitement or fury, but from impulse; he shouts and declaims on purpose to make those about him miserable. When the physician or a stranger may come into the presence of such patients, they not infrequently exercise, for the time being, enough self-control to enable them to reply to all questions intelligently, and are always ready with some plausible reason or excuse for whatever they may have done amiss; they are unable to perceive any wrong in tearing up or removing their clothing, and throwing it from the window or soiling it in the water-closet; at all events, they could not help doing what they have done, but will do so no more. Yet, when left alone, or out of the sight of the attendant, they immediately resume their former course of conduct. In the majority of such cases, the impressions resulting from what

has been said and done by others, or by themselves, appear to be exceedingly transient, or so evanescent as to leave no lasting effect, and, consequently, are not afterward recalled.

There are other cases still which exhibit a somewhat less marked change in the moral element of conduct and a less degree of excitement—cases in which persons can appear so sane, and are able to conduct the ordinary affairs of life with so large a measure of method and seeming reason, that their friends never for a moment suspect their sanity.

They, however, exhibit a **change of character**, and adopt such courses of conduct as are quite at variance with their antecedents. Persons who have been all their lives frugal, industrious, honest, regular in their habits, loving and affectionate toward wife and children, and devoted to the highest interests of society, give indications of quite opposite qualities of character. They become careless in relation to business, lavish in expenditures, ready to undertake new projects, fond of questionable society, and careless of reputation. When expostulated with, they become irritable, and not unfrequently abusive. They abandon the society of wife and children for that of comparative strangers, enter upon the most risky financial transactions, seek the society of lewd women, yet all is attributed by friends and neighbors to a spirit of "cussedness" and innate love of evil courses of conduct. All their past life of rectitude and probity goes for naught, and they are quoted as affording additional illustrations of total depravity. Yet many of them are cases of a mild form of mania, in which there has come a film of darkness, covering the moral vision, and throwing the judgment off balance, by reason of the changed circulation of the brain and consequent supersensitive condition of certain brain centres.

If the whole history of such cases could be unraveled, it would be found that there had been going on for months derangements of the physical organs, as well as of the mental functions. They, however, rarely come under the observation of the physician, and rarely have the slightest suspicion themselves that they require his advice for any purpose.

It should be remarked that as patients approach **the period of convalescence**, impressions of all kinds are stronger, more lasting, and leave an effect which can be readily recalled to remembrance; they may also be recounted afterward with more or less accuracy in words. Such patients can be influenced by associations with others, by changes in rooms and halls, by promises and incitements in the way of rewards, to exercise a larger degree of self-control, and not unfrequently, by such means, rapidly pass into a condition of convalescence.

LECTURE IX.

MANIA (Concluded).

Review of Symptoms—Excitement—Artificial Excitement Produced by Various Means—The Thought Process Modified by Changes in Blood Supply and by Morbid Processes Affecting the Inhibitory Centres—Failure in Power of Attention—The Result of Imperfect Functioning of the Thought Process—Fixed Delusions are Rarely Present in Acute Mania—Transient Delusions May be Present—Course and Progress of Acute Mania—Exacerbations—May Assume a Remittent Type—The Symptoms of Other Forms of Disease May Become Modified During an Attack of Mania—Counter-Irritation—Terminations—First in Recovery—Danger of Relapses—May Pass into a Chronic State—Symptoms of Such a Condition—Dementia—Excitement—Delusions—Table of Cases of Acute and Chronic Mania—Prognosis—Treatment—Importance of Sleep and Conservation of Physical Strength—Importance of Asylum Treatment—Hydrobromate of Hyoscine—Bromide of Ammonium—Chloral—Paraldehyde—Hot Baths—The Wet Pack—Out-of-door Exercise—Cannabis Indica—Quiet—Nourishment—Importance of Early Feeding.

In analyzing the symptoms which we have passed in review, we observe that the first and most conspicuous is that of **excitement**. This, in some degree, is an invariable attendant during the earlier stages of fully developed and pronounced cases. What is the physiological or pathological condition upon which it depends?

In answering this question, it may aid us to refer to some causes of excitement acting upon other organs of the body than the brain. For example, we may produce an increase of heart action by the introduction of certain substances into

the blood, such as alcohol. The contact of this article, while in the blood, with the nerve filaments of the vaso-motor system, which in health regulate the action of the heart, causes a partial paralysis, and this, indirectly, induces increased pulsation. A similar effect, though in a less degree, may result from other causes, such as an intense and continuous attention directed toward the action of the heart. In the former case there is produced a partial paralysis of the vaso-motor nerves, resulting indirectly in an increase of pulsation, and in the latter an increase of nerve-energy appears to pass directly into the motor system. In both cases a similar effect follows. This increase of function may continue within certain limits as to time and degree of intensity, without any consequent disease; but, beyond these limits, which vary in different cases, the action becomes excessive or irregular, and disease appears. The lesion consists in a disturbance of the normal balance existing between the two systems of nerves.

Now, excitement in that portion of the brain which is concerned in the evolution of thought may be produced in a like manner by the introduction of, for example, tea, coffee, or alcohol to the circulation. The presence of the ultimate particles of these substances in the blood, and acting upon the nerves of the blood-vessels, causes them to dilate, which results in an increased flow of blood to the brain-cells. The presence of a sufficient quantity of properly aerated blood in the grey substance of the brain is essential at all times for the discharge of the thought function. A less amount than the normal supply slows the thought-process and modifies its character, as shown in melancholia. The reverse is equally true; an increased amount of healthy blood in the brain (unless it becomes too great) causes an increase in the product of thought. In a like manner,

the continuous concentration of the attention on any special subject of thought, a profound grief or disappointment, a moral shock, all affect the thought-process by causing a more or less serious lesion of the inhibitory centres. The thought-process in health is largely automatic; thought of some quality comes whether we will or not; but while the two systems of nerves are properly counterbalanced as in health, the will may change the current of the thought, and modify its character to a greater or less extent. Now, in mania, the free exercise of the will power is invariably more or less impaired, and there can be no doubt that this is the result of a lesion of the inhibitory centres. Mental concepts form and pass through the psychical circle of the brain with an abnormal rapidity and persistence for the time being. Within certain limits as to time and degree, no special harm may result; the action may be modified and controlled by the will, but when these limits are passed, the thought-process becomes persistent, morbidly excessive, irregular, and disordered, and we have the excitement of acute mania.

Another very common symptom present in conditions of acute mania is **a failure in the power of attention**. The extent of this lesion varies largely in different cases, as does the degree of increased excitement, but difficulty in fixing the attention, except for a very limited time, is a noticeable feature in most cases. If, for the time being, it has been secured, it may speedily become diverted by the most trivial incidents, such as the passing of a person, a distant sound, as of the human voice, or the song of a bird—in short, any occurrence or sound which may reach the ear. Continued and fixed attention to courses of thought which may be passing through the brain, and, no less to external occurrences, is a prime requisite to insure

an ability to recall them afterward. This is true in the case of the healthy brain. Very little of what may have passed before the eyes during a ride through the crowded streets of a strange city, or during the excitement of a prolonged battle, can be recalled with any degree of accuracy by even a strong mind, unless the attention has been fixed upon definite objects and occurrences at the time when observed. In either case a vastly greater number of persons and events pass before the eye than can ever again be recalled.

How much more true must it be as to what passes subjectively or objectively during the storm-period of an attack of maniacal excitement. Hence, nearly the whole period ever afterward seems a blank to those who have recovered from an attack of acute mania in which the excitement was very great.

Lesion of attention doubtless results largely from the rapidity and imperfect functioning of the thought-process, and the consequent evanescent character of impressions made upon the brain. The thought-images appear and vanish on the confused mental vision in such rapid succession and with such changing hues and colors as to preclude much effort to attend to them. The condition, therefore, is the legitimate outcome of the character of the brain action, and has been thought to depend upon the lack of balance, or of co-ordinating power in the different sections of the brain. If this means a derangement of the normal balance of nerve energy as between the two great systems of nerves, it is doubtless true. It has been suggested that the symptom of excitement itself may arise from this cause, and the lesion of attention may also do so in no less degree.

The two symptoms, excitement and lesion of attention,

are quite sufficient to explain, not only the **impairment of memory**, as already indicated, but also that of **self-control and judgment**, both of which are generally present in mania.

Clearly defined and fixed delusions are rarely present in acute maniacal excitement. Indeed, they would be quite inconsistent with this character of mental activity. The vitiated quality of thought consists rather in the ideas which do not remain in the field of consciousness long enough to become beliefs of any kind, and generally not long enough to become correct ideas. In the condition of the nerve centres incident to this state, as above explained, the irritations which impinge upon the organs of sense, or the nerves of sensation, flash through the nerve-channels, leaving only the faintest impressions, and, consequently, give rise only to simple fragments of ideas, which are equally transitory. A belief, therefore, whether true or false, can hardly be supposed to be developed anew, and only such ones present themselves temporarily in consciousness as may have been formed in it while in a previous condition of health, and the memory of which may come into consciousness for the time being.

The supersensitive condition of the brain centres and the increased amount of blood present in the vessels of the brain give rise to wrong impressions, which, in their turn, generally give rise to equally false views concerning persons and things; a movement on the part of an attendant, a word, an inflection or tone of the voice in speaking, is misinterpreted simply because of the rapid flow of other half-formed concepts. And each new excitation causes a new crowd of images and delirious concepts to arise, which do not remain long enough to become crystallized into any quality of belief. This, however, is not true in cases in which

the degree of excitement does not become so pronounced, and in which there appears a degree of method in conduct and coherence in ideas.

Delusions of a transitory character are not uncommon in such cases,—the patient feeling that he is a person of the largest importance, that he has filled positions of authority and influence in the past, and is now incarcerated simply to deprive him of his rights. A young man came under my care formerly, who had been engaged as a book-agent, and had been fairly successful. While attending some religious meeting, he became impressed with the belief that he ought to become a preacher, and, soon after that, he actually had become one. He prepared and delivered several sermons in a school-house, to willing hearers, but soon after became so much excited that he was brought to the Retreat. This movement on the part of his friends he resented very stoutly, declaring that he had letters of the highest commendation in his pockets in relation to his ministerial abilities, and that to take him away, just as he was thus engaged in preaching one of the greatest sermons ever preached in the State, was an outrage which should be punished in the severest manner. This delusion, however, remained but a short time, and gave way to others equally transient in character, and he soon passed over into the condition of excitement in which nearly all sequence of ideas was lost, while his mind went stumbling on from one to another with the greatest irregularity.

In chronic and special forms of mania, the false conceptions and dominant ideas generally pass over into defined delusions with greater or less intensity and duration.

The course and progress of acute mania vary very largely in different cases, even when there may exist no apparent assignable cause for such variation. The maniacal

condition may continue for a few weeks only, or it may extend over a period of months. A stage of continuous mental excitement with restlessness and large increase of motor activity may be continuous, or the excitement may subside for short periods to be again renewed. In such cases there is no real remission, but simply a diminution, for the time being, of the intensity of the mental and physical activities. The length of time, however, during which such remissions may continue, and also the degree of remission, will greatly vary in different cases, and, in some, may continue for several months. A female patient formerly in the Retreat experienced as many as thirty of these remissions within a few years, during which she could reside with her family. In such cases a true neurosis becomes established.

These exacerbations may assume a **true remittent type**, the patient being excited on alternate days or on every third day. It has occurred to me to observe only three such cases, two of them being under my own care. The cause of these regular remissions was not apparent; it certainly did not appear to be of malarial origin, so far as ascertained. Quinine was used freely, but produced no effect in checking their appearance, though they ceased after the long-continued use of arsenic. Whether this was due to the effect of the drug, or to the fact that the course of the disease naturally terminated, is not clear.

It is commonly observed that when the **menstrual flow** continues monthly during an attack of mania, its presence is attended with an increase of mental and motor excitement.

It has often been observed that **the symptoms of other forms of disease which may have existed during months or years may largely or entirely subside during an attack of mania.**

This is especially noticeable in cases of phthisis. A young lady was recently in the Retreat during an attack of acute mania, from which she made a most happy recovery, who, when admitted, was suffering from a severe cough, and had experienced several hemorrhages from the lungs. In her case the degree of excitement was less intense than is sometimes observed, but still was very considerable, and extended over a period of several months. After the first six weeks the appetite became very keen, and she took large quantities of food; the cough entirely disappeared, and she gained, during the progress of the disorder, more than fifteen pounds in weight. It is not to be inferred, however, that there was a return of healthy tissue in the lungs to any considerable degree, but only that the objective indications and former progressive development had been checked by means of changes in the circulation and in the quantity of nerve energy present. Such modifications of symptoms sometimes occur, for short periods only, in typical cases of phthisical insanity.

Again, the progress of the disorder may sometimes be arrested and cut short by **the appearance of some other form of disease**, such as a carbuncle, or several boils, or an attack of intermittent fever, or again, by profound impressions made upon the nervous system through the occurrence of accidental injuries. Such effects would appear to be allied to those sought to be produced a century or less ago by plunging patients into baths unexpectedly, or by submerging them under water until partially suffocated.

An ingenious arrangement for this purpose existed in one of the oldest institutions for the insane in America, by means of which the patient, securely fastened into a chair, was lifted and rotated about by machinery until over a large tank of water, and was then suddenly let down into

it, where he remained during the pleasure of the operator. The operation could be repeated as many times on any occasion and as frequently as prescribed by the physician, and to the heart's content of the attendant in case the physician did not choose to superintend the administration of his own prescription.

Some cases of violent mania may be arrested by the effects of a **counter-irritation** applied to the head, or nape of the neck, or to both, in the form of a blister, which should be large enough to create a condition attended with inflammatory fever. Also occasionally by the prolonged use of hot baths, during the administration of which cold applications are made to the head. It should, however, be remembered that such remedial measures are successful in a very few cases only, so few, indeed, as to be regarded as exceptional ones.

Termination.—Acute mania may terminate in any one of several ways. First, in recovery. When this is the case, the excitement generally becomes less; the attention can be more easily secured, and for longer periods; the patient responds more readily and intelligently to inquiries addressed to him. He begins to pass longer periods in a sitting posture and sleeps more hours, and with less of medicine to induce sleep. As he begins to come to himself and realize that he has been ill, and is now in unusual conditions, he becomes less inclined to talk, and avoids alluding to his past condition, and may, when alone, seem to be slightly depressed. When the excitement has been intense, he has no idea as to the period of time passed since he was brought to the asylum, and may have no recollection of coming. The transition to a state of health may occur within a short time, or it may be very gradual, and extend over several weeks, and even months, before the mind

resumes its former activity. When the patient begins to talk of home and friends, and his interest in them returns, and also his interest in his former pursuits, it is a very favorable indication, though much care should be used to prevent a too speedy return to the cares and responsibilities of business.

When patients are overjoyed at the prospect of a speedy return to their families, and very confident that they are fully able to resume the routine of home life, the perfectness of recovery may be regarded with doubt. There exists in such cases a special danger of a return of the excitement. Self-control, with a tendency to distrust one's ability to resume life outside an asylum, is a far better indication.

It should be remembered that a brain which has passed through the excitement and strain incident to an attack of acute mania is, perhaps, ever afterward more liable to another. A special character of brain action has been experienced, and a tendency toward a recurrence of it will exist during a longer or shorter period in all cases. This is true after an experience of disease affecting some other organs of the body, and is to be anticipated and especially guarded against after an attack of mania with greater care than is necessary after an experience of melancholia. The length of time which may pass before the occurrence of another attack of abnormal activity in the brain will depend largely upon the inheritance of the individual, the perfectness of the recovery before leaving the asylum, his circumstances in life, and upon the degree of intelligent care exercised by him to avoid it.

Besides, it should always be borne in mind that there exists a physiological tendency in the brain and nervous system to **periodical changes** as to degree and intensity

of functional activity, and that this latent tendency is liable to force itself into an actual one in every brain which has passed through the storm of mania. This, therefore, is another and most important factor requiring to be considered in prognosing the probable termination of an attack. Allusion has already been made to a case in which this tendency became converted into a true neurosis, and in which there occurred no less than thirty pronounced attacks of maniacal excitement within a few years. Other cases are on record in which a larger number are mentioned. If, however, the system can be tided over a considerable period, say one or more years, this tendency may largely and rapidly diminish, and may again manifest itself only at the critical periods of life, or after prolonged exposures and severe brain experiences.

Again, acute mania may pass into a **chronic condition**. The period beyond which cases are reckoned as chronic is a purely arbitrary one; but there appears to be a consensus of agreement that when a case has passed **the twelfth month** it is to be regarded as chronic. This period of time may be used to indicate chronicity in cases of mania much more appropriately than in melancholia, inasmuch as recoveries from mania are much less frequent after twelve months than in melancholia. The mental and physical symptoms in chronic mania are usually less intense than in acute; the degree of excitement is less, and the power of inhibition greater. The hallucinations and delusions are of a more pronounced and definite character, and remain longer in the field of mental vision. There is rarely observed derangement of the bodily secretions, the motor excitement is moderate, the appetite and digestion good, menstruation reappears in females, and bodily health may remain good for years. The condition of the **memory** varies much in

different cases; while in some it may be perfect as in health, in others it is efficient only for short periods. Whatever of **dementia** is present is perhaps manifested as much in impairment of memory as in any other way. The moral sentiments are blunted, and are little affected by such stimuli as usually arouse them when in a state of health. The expressions of joy or sorrow, happiness and misery, are rarely alluded to, while a revival of interest in former occupations, interests, and modes of life very rarely appear. The degree of mental improvement will also depend upon the tenacity and definiteness of such delusions as may be present.

In a small proportion of chronic maniacs there occur **short periods of great excitement** during which patients manifest the most aggravated symptoms of the acute condition, becoming violent in the extreme, tearing clothes and bedding into shreds, breaking furniture, and every destructible thing upon which they can lay hands. Such periods of excitement, however, are not generally prolonged, and the physical health may remain unimpaired.

The **delusions** of chronic mania are rarely of the depressive type, but, on the contrary, are generally those of self-importance. The patient imagines that he possesses greater power and influence than ever before, and the delusion may extend to supposed change in his personal identity. Indeed, this not unfrequently is the case, and he becomes an emperor, or an ambassador, or some special messenger of the Divine Being.

Persons affected with chronic mania may, and generally do, **live many years**, unless there should arise some form of physical disease which ends the life. This is especially the case when a patient passes his time in an asylum, where he is little exposed to the frictions and excitements, irrita-

tions, and such unfavorable conditions as would be sure to affect his health if he were living under only the ordinary restrictions of home life. Regularity as to the hours of meals, and the time of retiring and arising, bathing and exercising, are of importance in the degenerate and irritable state pertaining to chronic mania.

Finally, acute mania may terminate in **dementia**, in which there exists an enfeeblement of all moral and intellectual faculties of the mind. Such an issue without doubt arises from the extent to which the physical disorder had affected the tissues of the brain and its membranes. When these have become changed through the deposits of adventitious or inflammatory products, and thickened by organic lesions, the mind is very likely to pass into a condition of dementia.

The following table indicates the total number of cases of both acute and chronic mania which have been received at the Retreat during twenty years, and the terminations as far as known from the records. By this it appears that

	1869, '70.	1870, '71.	1871, '72.	1872, '73.	1873, '74.	1874, '75.	1875, '76.	1876, '77.	1877, '78.	1878, '79.	1879, '80.	1880, '81.	1881, '82.	1882, '83.	1883, '84.	1884, '85.	1885, '86.	1886, '87.	1887, '88.	1888, '89.	TOTAL.
Acute mania,	60	54	41	43	34	34	42	23	20	19	31	45	30	33	19	27	38	15	13	12	633
Recoveries,	25	27	18	26	14	20	23	13	14	9	19	17	17	18	9	17	21	2	11	11	331
Deaths,	11	9	9	3	4	3	3	2	0	3	1	12	1	2	2	1	5	0	1	0	72
Otherwise,	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	7
Improved,	21	13	13	10	14	7	6	4	1	4	6	5	3	5	3	5	3	5	0	0	128
Stationary,	2	4	1	2	4	4	10	3	5	3	5	11	8	8	5	4	9	4	1	1	95
Chronic mania,	11	20	14	10	11	9	21	24	19	23	21	17	10	6	13	18	11	4	20	6	288
Deaths,	1	4	6	1	0	1	6	5	0	4	3	0	0	0	1	0	1	1	0	1	35
Stationary,	10	7	8	8	6	4	9	12	13	14	16	14	7	5	8	8	6	1	14	4	174
Improved or recovered, . .	0	9	0	1	5	4	6	7	5	5	2	3	3	1	4	10	4	2	6	1	79

there was a "recovery" record in 52.1 + per cent. of acute cases, and "an improved" record in 20.2 + per cent. Of

those reported as "improved" the larger number were prematurely removed from the institution and their histories remain unknown.

Of the chronic cases it is found that 27.4 + per cent. either improved or recovered.

Prognosis.—The prognosis will depend largely upon the duration and the intensity of the morbid process, the complications with other diseased conditions, such as phthisis, chronic debility of the assimilative system, etc. When occurring before sixty years of age, and uncomplicated, and when it has not so far affected the brain as to cause violent congestions, it may be regarded as favorable.

Statistics indicate that something more than fifty per cent. make recoveries. Of the 633 cases of acute mania admitted to the Retreat during the last twenty years, 330 recovered, 72 died, 128 improved, and 96 passed into a state of chronicity. The issues in the remaining number do not appear from the records of the institution.

Treatment.—It may be remarked in relation to the treatment of acute mania that when once it has become fully developed it is rarely "broken up" or "cut short," *i. e.*, it passes through several degrees of morbid excitement and continues for a longer or shorter time, which period does not apparently depend much upon any system of radical treatment. Convalescence then becomes established or the patient passes into some one of the other conditions to which allusion has already been made. It was formerly the fashion to talk of "breaking up" typhoid fever, and some physicians used to claim special skill and success in securing such an issue of cases by treatment, provided only they could have charge of cases in the early stage of the disease. When, however, such a result was not secured—why, they were not called to prescribe soon

enough. Such a belief as to typhoid fever has long since passed into the limbo of other exploded notions. In the case of mania it might not be safe to conclude as certainly that it is never "cut short" by some course of efficient or heroic treatment, but the diagnosis would surely in such cases be open to question. It is quite certain that such results rarely or never follow from any course of treatment adopted after patients with acute mania are admitted to asylums. On the contrary, the disorder continues in the majority of cases for two or more months, in spite of any ordinary or extraordinary system of management which may be adopted. Indeed, so generally is this the case, that we are led to doubt the genuineness of those cases which are cured in a few days.

In the management of acute mania there are three special *desiderata* to be attained, if possible; first, **moderation of the excitement**; second, **several hours of sleep every night**; third, **conservation of the physical strength**. To secure the first of these objects, nothing is more efficient than a removal from home to a well regulated and fully equipped institution, where the patient may be under the immediate supervision of strangers who are familiar with the management of such patients. The conditions of mania are generally so urgent, and it is so extremely difficult to care for them in a home, which they are all the while converting into a pandemonium, that friends are only too glad to have patients removed after the first few days of effort to care for them. Individual cases are sometimes met with for whom it may be important for various reasons to avoid an admission to an asylum, or even to a private establishment for the care of the insane. When such is the case the patient should be removed from his family and placed in a house obtained for the purpose, and under the immediate

supervision of trained attendants, and with a resident physician, if possible.

Of medicines to allay the morbid motor activity, when ordinary preparations are refused, I have found the **hydrobromate of hyoscine** one of the best. It may be given once or twice in the twenty-four hours, in doses from one hundred to one seventy-fifth of a grain, either hypodermically or in milk and water, or tea. As it is tasteless, the patient is unaware of having taken any medicine. **Conium** and **bromide of sodium** and **bromide of ammonium** may also be used to allay restlessness, and are especially indicated whenever (as is very often the case) a morbid excitement of the sexual centres of the brain may be present. Chloral and paraldehyde are also among the most efficient hypnotics. The use of the prolonged **hot bath**, with a temperature of from 85 to 100° Fahrenheit, and even higher in some cases, is of special value. The patient may be introduced to the bath at say, 70 degrees, and then the temperature gradually increased as he becomes accustomed to it, until it is as high as is desired. Patients may be kept in a bath from fifteen minutes to one hour, and should always be under the observation of the physician, and the pulse carefully observed. French physicians, for many years, have been accustomed to use baths of a higher temperature than above mentioned. I am, however, unable to recommend the practice, though it may be of service in some cases, as it is attended with danger.

Some alienists of Great Britain are in the habit of using the **wet pack**, which may be prepared as follows:—

A sheet is wrung out of cold water, then placed upon a Mackintosh blanket, and both laid upon a mattress. The patient, the clothes having been removed, is then placed upon the sheet, and it, with the blankets, is folded about

his person, and he is then covered with woolen blankets. He is left in this condition for half an hour, then removed and showered with cold water, rubbed, and placed in bed. The process may be repeated during the day if thought advisable; cold may be applied to the head while the patient remains wrapped in the blanket.

Some Scotch alienists, especially Drs. Sibbald and Clouston, have strongly recommended the practice of exercising highly excited patients by walking them between attendants long distances, or until a considerable degree of exhaustion is secured, for the purpose of quieting them. There can be no question that this practice for some cases, and in certain environments, is highly serviceable. It is, however, more practicable in such a climate as that of Scotland than in such a one as pertains to the Northern States of this country. In either the heat of summer or the cold of winter it would not be available. Besides, many maniacal patients are already in a condition bordering upon exhaustion from continued excitement, or in an anæmic state, when admitted. In suitable cases I have used this means for allaying excitement and securing sleep with much success.

In not a few cases the degree of excitement is greater than would otherwise exist, in consequence of an anæmic state of the system, and also because the patient has not taken a sufficient quantity of nourishment. In such cases one of the most efficient means of allaying the excitement and motor activity is the administration of beef tea, beef extract, or eggs and milk, with one-half ounce of whisky every few hours. Beer or ale may also be given after food with advantage.

2d. The second indication is to secure sleep. Each one of the above measures will greatly conduce toward

this, and in some cases will prove to be all that is required. In other cases some form of drug will be necessary. When the system is well nourished and the pulse strong, the bromides in dram doses are indicated and are a most valuable remedy. Dr. Clouston strongly recommends their use for limited periods combined with the tincture of *cannabis indica* in one-dram doses.

I have found the combination of chloral with the bromides better than any other remedy. The bromide of camphor may be serviceable in some cases in which the excitement is not very great. The bromides may be used during the day, and thirty grains of chloral at night. In some cases, with a condition of anæmia, I have secured good results by the use of morphine, but never use it for those patients who have a strong pulse or when there are indications of a congested state of the vessels of the brain. Under such conditions it aggravates rather than relieves. Paraldehyde has been recommended as very satisfactory in some cases, but I have not obtained any advantage which cannot be equally secured with chloral, and I think with better after effects. Sulfonal and chloralamid have more recently appeared as soporifics and have proved of special service as such. In some cases, confining the patient in a dark room is an efficient means of securing sleep, and, besides, is very grateful. Not infrequently there exists a sensitive condition of the retina which will account for this.

3d. **Nourishment.**—It may be laid down as a rule to which there are very few exceptions that all cases of acute mania require a large amount of highly nourishing food daily, and if it is refused, or not voluntarily taken, it should be introduced to the stomach by means of a tube. It is a serious mistake to long delay resorting to forced alimentation in such cases. Indeed, it is difficult to conceive of

physiological conditions of the system which more urgently require large supplies of nourishment than those which exist during the initiatory period of acute mania. Every day passed by the patient in the physical and mental excitement which are often present, without food or with but little, causes a larger loss of energy than three days under other conditions; and it is to be borne in mind that the period to be passed in the progress of the disease is not measured by days, but by weeks and months. The strain will come, therefore, in its greatest intensity later, and if the strength has been well sustained by a highly nutritious diet, the system will be all the more sure to resume its normal condition. Resort should be had, therefore, early to the introduction of beef tea, strong soups, milk and whisky, eggs beaten up with milk, and in case the stomach is deficient in digestive activity, some one of these articles should be given in small quantities every few hours. The conditions of the alimentary canal, as indicated by the tongue and mucous membrane of the mouth, should not cause an hour's hesitation or delay. After the initial period has passed, the appetite will return and sufficient food will be voluntarily used.

LECTURE X.

PRIMARY DELUSIONAL INSANITY.

Mode of Development—Contrasted with those of Melancholia and Mania—Patients not much Excited or Depressed by the Presence of Delusions—Chief Symptoms of the Disorder—Delusions Arise *de novo*, and are not the Result of any Antecedent Mental Disease—Ætiology—A Neurosis Inherited or Developed—Imperfect Development of the Bones of the Skull—Meningitis, Injuries, etc.—It more often Appears during the Epochs of Life—Symptoms—In the Prodromatous Stage—Tendency to Solitude—Distrust—Eccentricities—Irritability and Brooding—Tendency to Reverie and Subjectivity—The Primary Stage may Cover Months or Years—The Essential Element of fully Developed cases is Delusions—Hallucinations of General Sensation—Often Present in the Back, Sides, and Genital Organs—The Character of Delusions may Partake of Exaltation or of Pseudo-Depression—Memory—Illustrative Case—Letters of the Patient—Personality Overwhelmed by the Strange Concepts and Dominant Ideas, etc.

Mode of Development.—We have now traversed the two great fundamental departures from the standard of what may be assumed to be healthy mentality.

The first of these was in a line of diminution of functional activity, attended with mental suffering; the second in the opposite line of increased functional activity, and attended with exhilaration. Both of these conditions, you will bear in mind, have been shown to be accompanied or followed by delusions, illusions, or hallucinations, insistent ideas, and, in some instances, all of these. Further; in the condition of both mania and melancholia, the symptoms which gave

names to them constituted the underlying and principal features of the disorder, while the hallucinations and delusions assumed a secondary position, apparently growing out of, and depending upon the former, and they faded away largely in proportion as the conditions from which they arose and upon which they depended improved. This, however, was not the result in all cases. A very considerable percentage, after the conditions of mania and melancholia had passed away, remained still affected with delusions of different kinds, and also with hallucinations. These peculiar phantom-like creations which had been projected into the conscious sphere of thought, while its mechanism was burdened by a supersensitive or neurasthenic condition, made so profound an impression, or became so fully imbedded, as to remain long after the condition itself, which was the indirect cause of them, had improved, thus constituting a secondary, sequential, or chronic form of abnormal mental activity.

We now enter upon the consideration of a third line of departure from the assumed standard of healthy mind, the general trend of which leads away from that of either of the above forms, and, indeed, rarely crosses or intersects with either of them, except in an incidental way. It is a mental state or condition by no means as common as the first two, and yet is frequent enough to be found in all large asylums, and in some of them in considerable numbers.

In this form of mental disorder neither of the two principal mental conditions which we term mania and melancholia is found to exist in any marked degree. While some cases are attended by such mental changes as would ordinarily indicate a condition of depression, or, at least, a physiological basis for it, yet the individual does not pass into a state of melancholia. He may be mentally

burdened, and be constantly apprehensive of evil about to happen to him, but he does not on that account suffer in mind as the melancholiac does; he is never overwhelmed; he never despairs; he never speaks of not becoming well, or of troubles which he anticipates for his friends or family; he seems to be profoundly unconscious that there is anything the matter with him, and converses about his delusions of persecutions as a matter of fact, and troublesome, but something to be escaped from by using the proper means.

Again, he may be never so sanguine as to his future prospects and his present fortune; he may be confident he is an emperor, for a little while debarred from his rightful throne; or Paul the Apostle, or Jesus Christ even; that he is worth untold millions, and has missions of the highest importance to fill; and yet he never becomes excited about it; he does not become incoherent or maniacal, or deduce illogical conclusions from the assumed premises. The failure in his reasoning consists largely in the assumption of premises which do not exist. If these were true, the inferences and conclusions which he reaches in a very straightforward and consistent way would not be so far wrong or highly improbable. No very marked degree of mental enfeeblement or dementia or of mental inactivity appears for several years after the disorder has become fully developed.

Hallucinations and **delusions** of different kinds and characters appear to constitute the permanent characteristics of this form of mental disorder. And it should be noticed that these are not the residue of any antecedent attacks of systematized insanity, nor due to the after effects of such, nor do they constitute the after effects of either excitement or depression. Whatever of the latter may have existed in the earlier stage, is not more than is compatible with

mental integrity and ability on the part of the personality to distinguish properly and interpret all sensations and experiences.

That peculiar supersensitive condition of certain portions of the central ganglia, or certain cortical areas of the brain, which constitutes the basis of hallucinations, is not in this variety due to an extension of disease which formerly existed in other portions of the grey substance, but, on the contrary, appears to arise *de novo*, and to become the *point d'appui*, whence it is radiated to other limited sections of the cortex, thus furnishing a basis for delusions of a primary character.

The **emotional system**, which contributes so important an element and the disturbance of which plays so large a part in some other forms of mental disorders, remains mostly unaffected in this. Whatever of excitement may appear seems to depend upon the morbid beliefs of the patient, and may become considerable during short periods in connection with delusions of persecution.

Ætiology.—*A neurosis*—either inherited or developed from experiences incident to early life, such as infantile convulsions, delirium, or the disorders of childhood; imperfect or arrested development of the bones of the skull; meningitis occurring in childhood from falls, blows, or other contusions to the skull; injuries affecting the nervous system from frights and over-study at this period; or, finally, from impressions received while still in utero,—usually manifests itself at an early period of life, and generally during adolescence.

The proximately exciting causes of the development of this form of disease are less pronounced than in many others. In those cases which have come under my observation it has been connected more often with the advent of

puberty, adolescence, and the climacteric ; or, again, with masturbation and systemic diseases occurring in the early period of life, and profound impressions and injuries.

The environments have been favorable ; educational advantages and positions in society good, and those unfavorable influences which arise from poverty, over-work (except in cases of study), anxieties and disappointments, have not existed.

Symptoms.—The disease appears generally to develop in connection with the growth of the system, though, as already remarked, it may arise at later epochs in life in some cases. In the prodromatous stage there may be an increased tendency to solitude and a growing distrust toward those who have been friends for years, combined with an exaggerated degree of self-importance, and still the individual appears so natural, and, when once engaged in actual intercourse, converses so nearly as he always has done, that no suspicions arise as to the oncoming of disease. Its primary indications may consist in eccentricities ; singularity in general conduct ; too little inclination to participate in the sports and experiences common to childhood ; peculiar fancies, and a tendency to indulge dream-like states and reveries, while half unconscious of what may be passing about him ; a state of abnormal irritability and supersensitiveness if disturbed ; an inclination to solitude and introspective periods at that age when normally constituted children are expending the surplus of nervous energy in outward activities and the motor centres are especially sensitive and active. Such conduct is characteristic of and normal to the individual, as ordinary conduct is to persons in general, thus indicating how profound is the impression of the inheritance, or accidental experience, upon the organization of the nervous system. It is so potent an

element that it becomes ingrafted into and develops in connection with the growth of the system, thus rendering it handicapped from the beginning of life.

It does not, however, affect the development of the mental life in such a manner as to greatly hinder or check its activity. The mental life does not become hazy or dull, and such progress is often made in school as is common for young persons; and when the morbid state has finally affected the system so as to produce disorder of the mind, while it may, and generally does, tend toward enfeeblement, it does not produce dementia of a pronounced character, but, on the contrary, the mind continues especially active in many spheres of thought.

One of the cases illustrative of this form of mental disorder, and which has been under my observation twelve years, while showing indications of lessened mental and physical vigor, yet reads Latin, Greek, and German; is interested in, and regularly reads, the *London Saturday Review*, and has done so during many years.

When, however, the elements of mental activity are examined, it will be found that the tendency to reverie and subjectivity has long existed. The same mental concepts and ideas recur very frequently, and the range of thought and reflection is limited. Thoughts are not projected to persons and things without, but revolve about the ego; or if they become occupied with objectivities, all is considered in reference to ulterior relations to self. Slight occurrences become magnified in importance as they become absorbed; elements are added to them by the imagination from time to time, so that what was a mere conjecture soon becomes a certainty. In proportion as object-consciousness becomes faint and infrequent, subject-consciousness becomes more pronounced. This stage frequently covers months and

sometimes years ; the individual being regarded as singular and somewhat abnormal and perhaps unwell, before finally his condition becomes apparent by the commission of some public act which renders it beyond a doubt.

The essential element in the disorder of mental activities in those cases which reach asylums is that of delusions. This, however, has its basis in, and arises from the previous existence of imperative concepts and insistent ideas. Concepts and ideas which may flash into the sphere of consciousness become colored and their importance magnified in consequence of the supersensitive condition of the centres through which they become intellectualized, though the individual has not the slightest suspicion of this himself. His reflections upon these exaggerated ideas which arise in the mind soon develop them into more than ideas ; they receive reinforcements from other mental experiences, and ere long become converted into real delusions. Anatomically considered, the various areas of the brain through which excitations pass become morbidly sensitive ; consequently, they offer less resistance to impressions which seek to pass through them and functionate unequally and irregularly, thus giving rise to different forms of mental activities, according as they pass to the cortex or the sensory centres.

Delusions may frequently arise from the presence of hallucinations of one or more of the special senses, and, when this is the case, the delusion derives its character, in some degree, from the function of the organ or sense affected, whether it be that of hearing or general sensation. For example, when the hallucination relates to the sexual organs which become unduly excited, patients may believe that they have intercourse with angels, or with persons who enter their rooms at night in the most mysterious and

impossible manner. They believe they have visions of the Virgin Mary; that they hear voices of approval which come from her, for conduct which would otherwise be criminal. They hear commands to preach the word of the living God, because they have been so highly favored by these visits of celestial beings, etc.

Hallucinations of general sensation are very common, and in many cases form the basis of delusions. It is often difficult to distinguish between hallucinations and illusions; that is, whether the sensations are purely subjective, or whether they have a basis in an irritation of the peripheral terminations of the nerves, as in cases of chronic alcoholism. In a considerable number of cases there doubtless does exist a true sensation of an irritative or painful character, and patients endeavor to relieve it by the use of frictions, or ask for remedies for the purpose.

These abnormal sensations are frequently complained of in the spinal cord and the lateral surfaces of the back. Sensations like an electric shock shoot up and down the spine and over the scalp. The rooms which are occupied become filled with electric fluid at night and patients request to have them changed for others. The brain and whole nervous system may be believed to be illuminated by it, so as to be seen by others, leading to the desire to remain isolated, and a refusal to go into public places.

When the genital organs become the seat of hallucinations, the patient may complain of having been castrated, or in some way deprived of sexual capacity through the evil machinations of some fanciful enemy. Women believe that they are pregnant, or that they have been abused during sleep.

The delusions may be those of exaltation or pseudo-depression and persecution. The latter are the most

frequent, especially during the earlier periods of the disease. The ordinary occurrences and experiences of every-day life are regarded as having some special connection with, or relation to, these delusive beliefs, and are interpreted according to the depressed or exalted state of mind.

The memory is not impaired during the earlier stages, but, on the contrary, is remarkably good. The patient is able to recall and state in a clear and connected manner his experiences which have arisen in connection with the hallucinations, and he reasons about them in a more or less logical manner. The line of thought is quite connected, the order of ideas and concepts sequential, and the conclusions are frequently not unreasonable. The contrast between cases of other systematized forms of insanity and that of the delusional form, in this respect, is remarkable. Instead of the impressions and hallucinations being of a temporary character and often changing, leaving little or no remembrance of them, they remain and present a vivid residuum in consciousness during a considerable period. The patient is often able to present, even in minute detail, the nature of his experience, and also that of the delusions of persecution to which they give rise.

As illustrating this and other features of the disorder, the following case, which was under my care during several years, will be in point. The preliminary statement has been condensed from the one he gave me himself, and I present his letters *verbatim et literatim*, as they were sent to me, simply suppressing names of persons, dates, etc.:—

CASE I.—F. A. O., aged twenty-nine, of light complexion, sandy hair, medium height, thin in flesh, and of a neurotic temperament, was admitted in 188—. His father is excit-

able, quick in temper, and highly nervous ; his mother died while he was young, of some chronic disease.

About five years prior to his admission to the Retreat, he went to Europe, and had some vague plans in reference to studying in Germany, but finding it disagreeable, and having some rheumatism, he went to Paris and spent his first winter there ; he was much alone and had no acquaintances, and found it very unpleasant. The next summer he traveled about Switzerland and Germany, and spent the two succeeding winters in London, attending lectures on mathematics and philosophy. He appears to have spent the next year in wandering about Europe rather aimlessly, and finally concluded to spend the winter in Southern France. While at Marseilles he began to be troubled with sounds at night—thought he was watched by somebody, and that his landlord was anxious to get him out of his lodgings. He left in a short time for Nice, where he took lodgings, and soon got into trouble because he had no money with which to pay for them. He thought that a very disagreeable woman was hired by his landlord to dog his steps whenever he left the house, and to look into his windows when he was indoors. He was frequently roused from his sleep in the night by the voices of persons in the hallway and near his door. Sometimes they demanded admittance, which he always refused, and then left for the night. He finally received his remittance, settled his bill, and secured another lodging. His persecutors, however, followed him, and after he had retired for the night made some disturbance at his door, but then left. He fell asleep and after awhile was aroused by their reappearance and knocking at his door. He heard a woman on the balcony near his windows tell him to get up and load his revolver, which he proceeded to do, and while thus engaged his

room was entered by two policemen through the apartments of another lodger, and he was taken to the police station with all his luggage. A magistrate examined him about 10 o'clock in the morning, and finding nothing against him, let him go. He immediately took passage for Genoa, arriving there at about 11 P. M. He secured a room at one of the hotels and retired. At about 4 o'clock he awoke hearing a woman's voice telling him to get up and dress, that some one was about to try to rob him. He at once dressed and took down a clothes-rack with which to defend himself, and waited until morning. He said some one whom he had formerly known was putting up persons to do all this to spite him. He at once left for Pisa, and while on the way an old man in the coach kept buzzing in his ears and trying to turn his eyes crossways. After arriving in Pisa, he experienced the same annoyance as at other places. In short, he wandered around for weeks, over Europe, trying to get away from his persecutors, the buzzing in his head, and from the danger of robbers. Finally, his father found him in Paris, and, after considerable hesitation on his part, in consequence of his suspicions and hallucinations of hearing, succeeded in inducing him to return to his own country.

At home he conceived the idea that his system was filled with electricity, which greatly annoyed him, and after spending several weeks in arranging and re-arranging wires to carry it off, and threatening some of the members of his family as the cause of his annoyances, he was brought to the Retreat, where he has been for the past five years. During this period he has suffered from hallucinations of hearing and smell, illusions, delusions of persecution, and abnormal sensations in the brain and various other portions of the system.

During the last two years he has been frequently at his father's house, and when there has a room which he occupies. He is still affected with the delusion, when there, that the room is filled with electricity, and when at the table will sometimes throw down his knife and fork on the table, and looking up to the ceiling, exclaim, "There! they are at me again." He has written me many letters at different times, describing his perverted sensations, illusions, and delusions, and I herewith introduce some of them in the order as to time in which they were written:—

RETREAT, January 11, 18—.

DR. STEARNS:—

Dear Sir.—I am not doing as well as should be expected from the large amount of complaint that I have been making of late. There seems to be some great prejudice against me on the hall, which is impossible to overcome without your assistance. I am taking hold very well, but there is great back-pressure, so am obliged to fall back into my old ways again. Now this opposition comes from but one person, and he is determined that I shall not talk at the table or at meals, or make any appearance in the hall, and is disposed to whisper rather uncomfortable things against me. Now this person is the watchman, S. He claims that my uncle, Mr. G. W., has told him that they were in a great hurry to get rid of me, or get me out of existence at home, and he claims that he has the job and is determined to put it through. His first idea is to thin me out like a shingle while asleep at night, and then to force some of the numerous diseases that man is heir to on me, and to end my mortal existence and call my story ended. Please look into the matter and have it rectified if possible, and oblige

Yours,

F. A.

RETREAT, January 21, 18—.

DR. STEARNS:—

Dear Sir.—There is another strong point against S., the watchman. He is trying the dastardly trick of destroying my right eye. It has troubled me more or less since he has been on night duty, and I have spoken to Dr. P. several times in regard to it, but he has

assured me that it would not amount to anything; but now that I have personal difficulty with S., the trouble is increasing, and am afraid that some permanent difficulty like a cataract may be the result. There is a largeness and a blueness of the sight which seems to be increasing, and I also have trouble in reading; the eyeball twists and jumps about as if mad. It is very strange how the magnetism can take hold of such a sound body as the eye. I should think that you would advertise to straighten cross-eyes. If you can pull them out of straight, why can't you do the opposite and straighten them when crossed?

Do please stop this abuse of S.'s. I am trying my best to obtain your consent to board at home once more, but the fellow is putting so many stumbling-blocks in my way that it will be impossible until they are removed.

Yours,

F. A.

RETREAT, February 2, 18—.

DR. STEARNS:—

Dear Sir.—I wish that you would look into my case a little. I am falling back so fast under S., the watchman's, abuse that I am absolutely sick; my ears are out of order, and I am buzzing again at meals. I cannot think without attracting the attention of the whole neighborhood. My tongue is also drawn back out of shape again, freeing my tonsils, which your heavy bromine influence sways back and forward, making it difficult to speak or talk. S. is so saucy and ugly that I am afraid of him. My brain is drawn up off from the centres, thus making clear, free thought impossible. Why is it that you force such a scab like S. to feed on Parlor Hall fare? Do please free the Parlor Hall from the curse, and oblige

Yours,

F. A.

P. S.—S., to follow up his formula, orders some wearing or flesh-consuming influence to act upon me when asleep at night, that tends to hold me down in size and weight. I should, under this free and easy life, be growing in size of frame and fat, but I hold about my old weight. Why can't the influence be changed into a tonic and flesh-forming one? I have done nothing to merit such abuse, and am confined only for being a little saucy and free at home, and can see no sense in holding one down so long. Please look into the matter and have it changed, and oblige

Yours,

F. A.

We have in the above letters an example of how completely the personality may be overwhelmed by the strange concepts, dominant ideas, and consequent delusions, which would be utterly repugnant to it in a condition of health. There is no limit to the peculiarity and hideousness of the idea as it becomes projected into the sphere of consciousness, and really with only the slightest ground for its existence except subjectively. The dominant idea, as will hereafter be seen, is that of returning to his home to live. He has spoken of this often, and yet finding that he cannot obtain permission to go, begins to cast about for the opposing influence. The regular attendants on the hall are very friendly with him, and he with them; but he only occasionally sees S., the night-watch, and usually at the tea-table. The latter is a rather quiet, reserved sort of person, and says but very little to any one except those for whom he has occasion to do something. Now this very circumstance of silence seems to suggest the idea that S. may, after all, be the person who uses an influence against his return home. From this as a starting point, there arise other allied concepts, and as they become modified through the morbid character of reflection, and the consequent semi-delirious state of the mind, they assume all the importance of realities. He construes S.'s silence, or some look or word he may chance to speak to some one else, as relating to him; he suspects him of dislike, and then of using some secret influence against him. He connects him with his perverted and semi-painful sensations as their cause, and the idea becomes transformed into the delusion that he is endeavoring by some secret trick to infect him with disease, and thus end his story.

In a similar manner he proceeds to connect other sensations and concepts with something he has observed, or

thinks he has observed, in the conduct of S., when in reality there exists not the slightest ground for such a connection. The abnormal sensations become illusions. He has some abnormal sensations about one eye at times, and has occasionally spoken of it to me. Now while he regards S. as his enemy, his appearance or the sound of his footstep as he passes his door in the night gives rise to the suspicion that he is the secret cause of the difficulty with the eye, and hence that he is using a malign influence to destroy it, by twisting it out of axis, or causing it to protrude from the socket. He is not gaining in flesh as he thinks he should under ordinary conditions, and this leads to the belief that it must be due to some strange influence brought to bear on him at night by S. when he is on his rounds through the hall.

At times, with the aid of assurances by the physicians, he is able to correct the false logic of his mental operations, but when left alone it tends to constantly reappear, and his imagination lends food to the delusion, which increases upon whatever is supplied to it in the way of the most casual occurrences, until after a while the whole sphere of thought becomes absorbed and influenced by it. Every word he may hear, and every occurrence he observes, has some secret reference to him, and is designed to his prejudice.

The following letter indicates the manner in which the delusion increases as the sphere of thought in relation to it enlarges in extent, and it begins to dawn upon him that others are entering into the conspiracy to prevent his return home. He remembers some word spoken by his step-mother, or which he imagines he has heard her speak, which suggests that she may be using her influence against him. The idea becomes magnified and dominates, for the time

being, the course of his thought. If she is against him, then she may be abusing his father, whom he at once pictures as a sadly persecuted individual. But if she exercises a malign influence over himself and father, why may she not do so over others—the neighbors, the pets, and the domestic animals about the house? The suspicion becomes a conviction. Again, if this person can and does exert so baneful an influence at home over those whom she meets, why may not other women whom he occasionally sees about the Retreat, but with whom he never speaks, do the same. This suggestion also becomes a conviction, and he at once projects the female attendants into the grand conspiracy which is now in operation against him.

The hallucinations of general sensation which affect the spinal column so vividly seem to him to be like the effect of electricity. He is aware that there is an instrument or “Machine” for the use of this in the Retreat, which leads to the suspicion that I am using it on him in the scheme which is being enacted against him. His thoughts become voices which he hears from persons whom he may pass in the street, who look askance, and speak aloud about the very subject of his mental operations. Finally, the explosion of his train of suspicions and delusions finds vent in the letter which he addresses to me:—

RETREAT, February 3, 18—.

DR. STEARNS:—

Dear Sir.—I have got one very important point for you to look into before much advance can be made in persuading father to take me home to board again. This point is the great power that Mrs. J. possesses in venting her spite whenever she will, even to the death of the victim, by the aid of your powerful electrical or magnetic machine. She intimidates father to such an extent that he does not oppose her in any way whatever, and carries the abuse to an excess in my case, delighting to torment me or put me under a ban, when with her in

public, by some of your powerful narcotic influence, or some slur produced by your lunacy abuse, as when with her in the house or cars, or in company. Now, has not this abuse been carried far enough? You spoke to me of its being unpleasant at home; but it is all caused by your women here at the Retreat abusing me at a long distance while at home, and by her request. * * * * Father would have encouraged my coming home long ago, if he had not been so fearfully intimidated by her with the aid of your machine. As your women follow her so closely, and vent out her spite in any direction whatever, by terrible punishment. For example, the case of our neighbors, the Miss M., two old maiden ladies living in a quiet way just opposite to our house. They were both troubled a little with eyes, and Mrs. J. kindly agreed to bring over the morning paper and read to them the news. Well, this was kept up for some years, or until the ladies became very tired of it and hinted strongly for to give up the practice; but she persisted, when one of them became a little saucy, which provoked her, and she swore vengeance. Well, the end of the matter was that the abusive one became almost totally blind, and finally paralyzed, and was held in this condition until she died. You may laugh at this, but it got to be quite a scandal in the neighborhood, as the maiden ladies were not at all afraid to howl at the windows that they did not want her to come, etc.

Now, it is this same thing that intimidates father. When he is inclined to give me a trial, she takes right hold of him and follows it up, and absolutely makes him keep me here. As, for instance, last summer he told me to find some employment and go to work. I made an engagement with a Mr. W., but he was absolutely afraid of her, and consequently refused to allow it. He was, and is now, very desirous of having me earn my own living, but dares not oppose her, as he is afraid of her, and your women would kill him, I am confident, to please her. Now, why can't this abuse be stopped, and he be permitted to think freely and to use judgment in my case? Again, your women are most too free in talking and posting them at home in regard to my affairs here; they howl out insulting things that prejudice my father greatly, and you, yourself, are too familiar and sarcastic there. Now, if you will order your women not to follow her whim, you will greatly benefit the male members of our house. I am very polite to her in every respect and study to please her. Now, do not call me insane for writing you this, as it is a very grievous point, but

say a good word, and help us by stopping this intimidation and abuse of several male members of the community by one female. I do not want it possible when any matter of importance comes up that I am interested in, and must talk and know something, for her to have the power, by a mere thought or motion, to draw down upon me the strength of your powerful narcotics or to cast a slur upon me by your lunacy nonsense. I consider that I have been punished enough by this long term of imprisonment, and have earned an entire exemption from all your lunacy abuse. It would ruin me completely if she were permitted to abuse me while in the Probate Court, etc.

Now, please do not make this letter in any way public, as it is for your eyes alone. I do not want any trouble at home, nor to be followed up there as S. has me here at the Retreat. Now, what I want, and it is the whispered request of father, that you order your women by a written note to them, not to follow her and avenge her little spite, and put people under a bane to please a partially insane woman, as she absolutely ignores human suffering and life. She is constantly striving to distress and injure some animal and make it suffer. We can keep nothing in this line. Your women have killed or stoned to death at her order the following list of live stock belonging to us: A little pet terrier that father valued highly; a carriage horse, two cats, and two or three canary birds. J. is sick as soon as he enters the house, and father is in constant fear of his life. She has murdered Miss M., and was the cause of the death of brother F., and is the cause of the ill-health of her mother. She torments and intimidates our family to such an extent that father was obliged to confine me indoors to save my life. The prevailing influence at home now is cathartic, with a peculiar chill that keeps father constantly in misery. Now, all this misery and trouble can be stopped by an order from you, which please give. These statements are for you alone, and are true in all respects. Please favor me, and do not prejudice me at home, as all is very pleasant and agreeable. It is only the underhanded nonsense that should be stopped.

Yours,

F. A.

P. S.—This is written very carelessly, but please excuse.

LECTURE XI.

PRIMARY DELUSIONAL INSANITY. (CONCLUDED.)

The Cause of Delusions may be a Super-sensitiveness of the Spinal Cord—Tension of the Mental State—Letter—Mind-reading—Letter—Case—No Transformation after Seven Years—Intensity of Hallucinations in Some Cases—Hallucinations of Smell Most Frequent in Cases having a Sexual Origin—Case 2—Letter—Case 3, Illustrative of its Slow Development—A Large Degree of Mental Activity Exists for Many Years—The Character of the Hallucinations may Indicate a Sexual Origin—Letter—In Many Cases a Transformation from a State of Depression to one of Confidence and Partial Excitement Occurs—Persons Become the Owners of Vast Estates—Kings, Queens, Illustrative Cases—Peculiar Writing, with Translation—Cases in which the Delusions have been from the First of an Exalted Nature—Case—Prognosis—Recovery Sometimes Occurs in Acute Cases—Remissions of Considerable Duration—Treatment.

In primary delusional insanity, delusions of persecution are frequently the outgrowth of hallucinations and illusions of general sensations, and often a cerebro-spinal super-sensitiveness which arises from the habit of masturbation or uterine disease is present. There exists no doubt that the patient whose case was studied in the previous lecture had been a masturbator for some time before the development of insanity. This will in some measure account for the peculiar character of the conditions demonstrated in the following letter. The letter also indicates how fully the writing of the former letter appeared to relieve him of the state of mental tension into which his mind had passed

in consequence of the morbid concepts and ideas which had occupied it.

RETREAT, February 8, 18-

Dr. STEARNS :—

Dear Sir.—I have still another complaint to make to you, and it should be done as soon as possible. My list of regularly systemized abuse is large, I know, but it is not complete until the following is added. The right side of my head is inclined to swell itself out, or to have that feeling, and to be clearer than the left. The eye upon this side is inclined to follow in this general run, and my ear is very sensitive. I should feel sorry to find some morning that this unruly side had got to be much larger than its companion, and I think this change would not add greatly to the beauty of my face. Now, can't this nonsense be stopped? I have put up with much in this line, but am afraid that if it be continued, possibly a permanent set may be produced which would greatly disfigure my face. Please look into the matter and have it stopped. Now please do not let my letter to you Saturday in regard to this underhanded meanness at home make you nervous at all. I wrote you to let you know the conditions of things there on the sly, and to help father. Outwardly we are in perfect harmony and friendly, and unless you show it and make a disturbance, I shall be able to arrange matters with father soon, and return home with the best of feelings. Now please help me in this endeavor to make father's life more comfortable. I have written to you from the kindest of feelings toward my father, and to relieve him from a scourge, and to prolong his life. Now please look kindly upon it and oblige

Yours,

F. A.

In the next letter he describes that peculiar condition which some patients occasionally are affected with, namely, that of *mind reading*; they think that physicians often, and sometimes attendants or friends, have the power of affecting the brain in such a manner as to render its mental operation visible to others. Their very thoughts are read by persons whom they may pass in the street, and may become converted into voices which they hear from a

distance. These persons are heard announcing to others various intentions and purposes; they blow fumes of noxious gases or chloroform through the windows or doors of the room at night; they injure their genital organs and render them useless; they put poison in their food, and do many other things to render their lives wretched, all of which is interpreted by patients as a part of the general plan of persecution which is being carried on against them. Our patient will explain some of his experiences in this respect in the following letter:—

HARTFORD, January, 15, 18—

DR. STEARNS:—

Dear Sir.—There is one point yet in regard to the treatment here that is very aggravating and disagreeable, and I should like to have it stopped. There is a peculiar influence that you might call almost luminous which you surround the victim with that tends to make him transparent, so that persons near me can see the action of my different organs, making it sometimes very disagreeable, and especially so when in ladies' company with some difficulty with the bowels. And it is also disagreeable when applied to the head, showing up the action of the brain, which, if not in a good, free, healthy condition, tends to throw a slur upon its owner; and again is bad if thrown upon me suddenly while passing ladies upon the street. I have heard them say several times, "What is the matter with that fellow? Why, I am afraid of him." Now, if possible, I want it stopped. I see no sense in casting such great notoriety and prejudice against me in the city. It would also be uncomfortable and would destroy the confidence if you were to abuse me thus while boarding at home. Father would not stand the nonsense, and would confine me again. Now I am very desirous of freeing myself entirely from these abuses. I have lived here long enough, and you have entire confidence in me, so there can be no use of keeping the humbug going longer. I want to walk the streets without any of these remembrances of my lowly existence in a madhouse.

This same abuse or a little different, is carried to a great extent at home. I am followed so closely by the servant girls at the water-closet as to make it uncomfortable; this was the principal cause of

my coming here; they followed me so closely at night as to worry and aggravate me much. I am very desirous of boarding once more at home, so please have the abuse stopped, and direct Dr. P. to give me the word "*GO*," and oblige

Yours,

F. A.

P. S.—I do not become clear and smooth of head yet, and there is also a little impediment in my speech, and my tongue is a little stiff.

Yours,

F. A.

The above case may be regarded as a clearly outlined one of primary delusional insanity of one variety, namely, that in which the delusions of persecutions which arise from hallucinations, illusions, and insistent ideas play the most important part. He has a good appetite and takes a sufficient quantity of food, but all the while looks anæmic and far from well. Though the disease has existed some seven years, it has not passed through any stage of transformation into that other variety in which the delusions are of the opposite nature, and which would be regarded as indicating an unfavorable prognosis. The fact, however, that the disease has so profoundly affected the whole nervous system, and has already existed so long, renders all expectations of recovery improbable.

Patients are occasionally observed in whom hallucinations of hearing and general sensation become so greatly intensified that they are in continual fear and expectancy of death in some horrible form. Voices are heard in the next room, near at hand, or at a distance; they may be clear or indistinct; again, other sounds may be heard, such as the singing of birds, the ringing of bells, the noise of machinery or of passing carriages; and the patient will locate with great definiteness the place from which they come. They become vastly intensified at times, and issue from the hot-air flues which open into the patient's room. The plans

which are being adopted to persecute them, and to inflict the severest degrees of suffering they may hear repeated many times over, and can even distinguish and recognize the voices of the several enemies who are conspiring together.

A female patient not long since told me that she could distinctly hear the voices of four persons whom she had formerly known, who were planning to injure her. The leader was John White, and they were arranging to pour vitriol down her spine and over her head, so as to have it a bleeding, horrible sight, too dreadful for any one to look upon. Others imagine that enemies are twisting the lungs and heart from their natural position and turning them upside down; at other times are endeavoring to extract the uterus or place the liver on the wrong side of the body; they smell the fumes from decoctions which are being prepared to pour down the throat whenever they can be found asleep, and hence they do not dare to go to sleep or even to lie down until forced to do so by exhaustion. These terrible delusions become so overpowering that patients never smile, and cannot think or speak of anything else, and are constantly entreating the physician when he visits them to avert the awful doom which seems to be awaiting them. The impending evil, of which they have so long had a fearful presentiment is now about ready to be consummated.

In other cases the hallucination may be limited to smell; the patient imagines that some person is filling the room in which he sleeps with chloroform, or with noxious gases, and he locks and bolts the door of his room, stops up the keyhole and the windows, and finally insists on leaving home and seeking some other place, such as a shed or barn, in which to sleep. Hallucinations of smell are said to be the most frequent in those cases having a sexual origin.

As illustrating the great intensity and persistence of hallucinations of hearing, which obtain in some patients, and the almost incredible course of action adopted by the persecuted victim, by means of which to escape from the suffering and annoyance which they entail, I introduce the following case :—

CASE 2.—J. J., aged twenty-one, whose parents are French, a student of nervous temperament and good intellect, was admitted to the Retreat in 187—. During the preceding three years he is reported as having been studious and living at home, attending the college classes, but at times greatly troubled by persons laughing at him when in church or on the street, and by the ringing of bells, and the rumbling of heavy wagons and carts in the street, while he was trying to study at home, all of which was done by persons for the special purpose of annoying him. These troubles had rather increased of late, and he had failed in his examinations, which greatly mortified him. He became depressed and disposed to remain alone in his room, and took to smoking; was irritable, suspicious; took his food irregularly, and finally broke several mirrors, and threatened his sisters because he thought they caused the noises in the street and the ringing of bells for the purpose of irritating him.

His condition varied considerably from time to time after his admission. He was irritable, suspicious, disposed to be alone; complained of the bells of the city ringing, and was disinclined to exert himself, and to take even a bath or change his linen, or take any exercise out of the building. He was often visited by his father, and on one occasion went to Boston for a few days. He got on so well that he was removed home for a trial; but after a few days became solitary in his habits—refused to take food with other

members of the family; complained greatly of noises on the street, and of the sound of the church bells which he said were kept ringing, and was finally detected selling his books, with the proceeds of which he said he intended to go abroad. He was then returned to the Retreat. Before consenting to come he demanded to be taken before a magistrate and examined as to his sanity. He had a considerable sum of money with him, and refused to tell how it was obtained. He also had a passage engaged by steamer for England.

After remaining under treatment for several months, he was again removed and traveled with friends in the West, but returned home alone, and immediately took passage for Savannah, Georgia. He said he took this step to get out of the sound of bells and noises. Finding himself no better in this respect there he took a sailing vessel for England and visited London, where he remained a few days. Then he went to Sweden, but soon left for Southern France, and thence to Alexandria and Cairo, where he remained two months. He then returned to France, and traveled through Germany, Prussia, Switzerland, Italy, and back through France to England, where he shipped as a sailor to Africa and back again. All this time he says he was traveling from one place to another, not so much to see the places as to get away from the persons who were persecuting him by the ringing of bells, and making day and night hideous by the noises they created for the purpose of annoying him. He then began to travel about in England, and while at one place in the southern portion was arrested, as he says, on the charge of an old woman, whom he never had seen before in his life, that he had stolen a sovereign from her. He was kept in a police station several days, and then tried and sentenced to prison,

where his father found him, and returned him to the Retreat, where he has been during the last eight years, affected with hallucinations of hearing, and, in a much less degree, by those of sight. His memory is very good, the physical functions are active, and at times he reads, but seldom writes, and is not disposed to converse with others. Indeed, he says he does not care for anybody but himself, but is entirely satisfied with himself. He says at times he sees objects delineated on the walls of his room, such as table furniture, and that these objects move about just to annoy him. He has never presented symptoms of excitement or depression. I here introduce a letter which he wrote to one of my assistants, which will show the general state of his mind at the time it was written.

August 10, 188-

DR. P.:—

Sir.—I am annoyed by persons in the trains of the Conn. Valley & Hartford Railroad, and by the engineers who whistle to annoy me, also by men who drive wagons and carts on Washington Street and Retreat Avenue. By persons who cause birds, crickets, and roosters on the lawn to chirp, sing, and crow annoyingly and disagreeably; by persons living around the lawn making roosters crow to annoy me; by church bells in the city rung to annoy me; by the chapel bell; factory whistles in the city in the morning at seven o'clock and at noon are blown to annoy me; the lawn mowing-machines are caused to go very disagreeably and annoyingly; in the night I am kept awake and my sleep is disturbed by patients who cause the clock in the hall to tick to annoy me, and by persons who cause roosters and birds to crow and sing to annoy me. I am made to have erections and sometimes emissions in the night, which is done to annoy me, and I am kept constipated to annoy me, sometimes not having more than one passage in a week; thunder is made to go to annoy me. Some of these annoyances continue more or less almost all the time. Please have them stopped.

J. J.

The following case is of special interest, as it illustrates several peculiarities in the character of the symptoms of primary delusional insanity.

First.—Its slow development, extending in some cases over a period of many years, and attended with remissions.

Second.—The intensifying and exaggerating of peculiarities of individual character which have been inherited, and which have appeared at or before the pubescent period of life; and

Third.—The large degree of mental energy and activity which may continue more than forty years subsequently to the first manifestations of the disease. The hallucinations were confined chiefly to the sense of smell. This is said to be the case more especially in those cases in which the habit of masturbation has existed. I find from the record of her first residence in the Retreat, that this habit was suspected, but nothing more is recorded in reference to it, and there certainly have existed no indications of the habit during her last residence here. It will, however, be noticed that when sixteen years of age she was morbidly religious, somewhat hysterical, and at times depressed, which, possibly, led to the suspicions recorded.

CASE 3.—“G. S. O., age about twenty-two, single, original disposition, kind-hearted, but self-willed and impulsive, cheerful and hopeful. Intellectual capacity of uncommon order; writes, reads, muses, and is inclined to seclusion, and has been so for seven or eight years; more particularly for two years past; has become wakeful at night, getting up and going about the house alone, sometimes singing and talking, and sometimes laughing and crying. Has been extremely sensitive whenever her will was crossed or opposed and had visionary religious “impressions.” Became excited

on religious matters ; thought a day was appointed for her to die, and when this was past, then another, and so on ; experienced a longing to die. She was nine years of age when her mother was divorced from her husband and became insane, and died in this condition. She was morbidly religious when sixteen years of age ; her health suffered much from irregular menstruation. "While she has many things in her character and disposition calculated to interest persons with whom she comes in contact, through all these qualities there is a morbid action of the mental and moral sentiment which foreshadows a future in her experience which we dread to contemplate."

On admission, April, 1853, she did not sleep, and would not remain in her room all the while. Would not walk unless alone. Had suppression of menses, and delusions of apprehension ; was very obstinate ; wrote letters and sent them off sealed, contrary to orders ; refused to eat any meat, and complained of treatment ; complied with nothing ; was whimsical, capricious, fault-finding, irregular at meals ; when out walking started to walk off to the river, saying she had lived long enough. At times despondent, and at others somewhat excited. Went away for a month, and returned apparently quite reconciled to do so. Was suspected of masturbation, but took medicine and improved considerably, and finally was discharged as recovered, May, 1855.

During the next twenty-five years she lived in more than as many places, never able to get on very long at a time anywhere, and could never agree with anybody except *cats*. She was very fond of these animals, and after awhile obtained as many as twenty ; she lived with them in one and another place, always fearing lest any one of them should get killed, suspecting and disagreeing with all with

whom she had much to do, and finally secured a small house in the woods at a considerable distance from other houses, where she remained with her cats until her physical health became so impaired that her friends interfered and removed her again to the Retreat.

At the present time she has been under observation six years. It would be difficult to present a picture covering all the principal features of the psychical life of this person during this period. One of the more prominent traits of character is that of selfishness. The thought of self and what may be done, or neglected to be done, for or against her wishes, and supposed interests, absorbs her mental energies and covers the sphere of mental activities. She listens to all that is said and, observes all that is done with reference to its bearing upon herself, and at times construes the most harmless remarks into some meaning which would not for a moment bear the light of ordinary construction. She desires to be odd and eccentric in appearance, and, when spoken to about it, says it indicates individuality and character; that she does not wish to be like other people. She wears constantly a peculiar turban or headgear, she says, to prevent attacks of neuralgia, from which she claims to suffer very much. She is never shy or reserved, but, on the contrary, courts attention; is quick at repartee, and is especially pleased to have persons inquire after any of her literary performances. She complains much of unpleasant odors, and claims that the air of the hall is laden with them; that the mucous surfaces of her throat and lungs have been ulcerated, and that she suffers the most excruciating agony from being obliged to breathe this air day after day. Menstruation has ceased for several years, and there appear to be no perverted sensations in connection with the sexual system, but she has on several occasions suspected the physicians of proposing

improper sexual relations when talking with her, and also says that they are having criminal relations with the attendants; when asked for her reasons for such an opinion, she says they would never favor these persons as they do except there existed such relations. She remains much in her room, and rarely associates with or is interested in either patients or attendants; is irritable, and becomes excited if her wishes are not complied with, using the most abusive language. Has perverted sensations, and says she cannot sleep either in summer or winter except under eight or ten pairs of blankets. Will not take food at the table with other patients, and claims that she must take food only at irregular intervals; is constantly smuggling articles of food to her room, and then throwing it out of her windows that cats or dogs or the birds may get it. Will not take medicine prescribed for her supposed ailments (neuralgia, ulcerated lungs, etc.), but is constantly entreating to be permitted to have some nostrum which she may have seen advertised in the newspapers, and if denied becomes most abusive, accusing the physician of inhumanity, and denouncing all who have anything to do with the Retreat as unchristian, unprincipled, heartless scoundrels, and the Retreat as the abode of fiends, who will ultimately inhabit the innermost circle of Dante's hell.

Her memory is excellent; her psychical activities are large; she speaks and writes with great rapidity, and covers pages with words of vituperation and calumny toward all who have any relations with her. At other times she becomes agreeable and will converse in the pleasantest manner, often quoting from authors whom she read a great many years ago. I here introduce a specimen of one of her letters to me relating to odors of which she has complained during the last twenty years, and which indicates how entirely the mind may

become clouded, confused, and overwhelmed through the form of the hallucination, which for the time being is so intense :—

Go be where I have been,
Go feel what I have felt,
Go see what I have seen,
Go smell what I have smelt.

Retreat odors, besides their undertone of revolting, concentrated stench, the peculiar suggestion of which is insanity, and incarceration behind heavy, impervious walls (impervious to pure air, I mean) and wood work of nearly sixty years' impregnation therewith, have also another threefold injuring character, alternating between human excrements, vomit, and matters from a sore, respectively, one or the other ever being in the ascendancy, but oftener all three forming an effluvia that ought to be termed, from its being peculiarly distinctive of the place and excruciatingly fetid, "Odor de Insanity." I have sometimes thought that the reason those in authority did not do or have something done to banish and antagonize it, if possible, was because they sought thereby to lower the moral tone of attendants and patients, and keep their poor patients half sick, and so make the possibilities of which these dens of torture so readily permit more easy of accomplishment; for I fully believe that voluntary filth and putridity and vice and cruelty are a very harmonious trio to each other, and hail fellows well met. Swedenborg says that hell smells like human excrements, or something to that effect, and Dante describes the approaches to some of its infernal corridors and descents in very similar terms, so that we may very safely conclude that, approved, permitted, coinciding with the Prince of Darkness in this respect, is no other than a suggestion and instigation of his, and works right in the line of his most demoniacal propensities, for "cleanliness is next to Godliness" in more than one sense, I fancy. One great cause of the extreme repulsion and instinctive shrinking that odors of the Retreat, different from all others ever experienced, excite in my own mind, is, besides, their peculiarity, morally and physically defiling, permeating, non-obliterating tendency, fearful beyond telling; but besides this, I say, one of the greatest sources of torture to me in them has been that their very suggestion and interpretation and language and phase was torture, unearthly and fiendish malice,

inhuman, demoniacal torture, whispering all too loudly, in a professedly Christian land and age, of the secret horrors, the infernalities, the God defying rigors and iniquities of the dark ages and the Inquisition.

We have thus far studied the symptoms of only one form of Primary Delusional Insanity. The cases presented as illustrating them have been characterized by hallucinations and primary delusions of a depressive type. These elements of disordered mental activities have led the subject to conduct consistent with delusions of suspicion and persecution. All of these cases have existed several years, and under the influence of asylum life, the force and intensity of hallucinations and delusions have largely subsided in some of them. The mind remains in a considerable degree of activity, but it is evident that the stage of weakness and partial dementia is present.

According to Krafft-Ebing, however, a transformation from a state of depression and fear to one of confidence and exaltation occurs in about one-third of all cases. It may be quite sudden, or it may develop slowly, and form the effects of reveries and reflections upon impressions which reach the super-sensitive centres of the brain. Some paragraph read in a newspaper, a casual remark made by the physician during his visit, or the visit of a stranger to the hall on which the patient resides, may prove to be the exciting incident.

An example of this transformatory process is presented on pages 100 and 101, in the case there referred to as illustrating the character of a fixed delusion. From being a person of humble origin, and the subject of persecution, she gradually became one connected with a titled family of England, and was only waiting a little while, when the full right to her proper position as to family and property would be vindicated in the Supreme Court of the United States.

Others become kings or princes, or the sons of emperors, and are soon to enter into the full possession of such rights and dignities as pertain to persons so allied. They become the owners of vast estates and castles, or of all the bonds and mortgages existing in the country.

There is a case now under my care in which this transformation has recently occurred. The case developed in connection with the climacteric epoch, and presented during about five years both hallucinations and delusions of persecution, though in a less pronounced degree than many other cases. The disease then assumed a new form. From a state in which he could rarely and with great difficulty be induced to leave the house, where he remained several months in order to protect himself from his enemies; he, within two or three months, passed into one in which he imagined that he was of the greatest importance. He visited stores and gave orders for large purchases of various kinds; wrote out a petition to the President of the United States for an appointment as Minister Plenipotentiary to Corea, and took it to several of the most important and influential citizens of the city to be indorsed by them; appointed the day on which he was to leave the country to assume his duties; invited a large number of his friends to join him at his expense; entered into negotiations to charter a steamer for the purpose, etc., etc. It is now about three months since this change occurred, and when I recently introduced him to an ex-Governor of the State of Vermont, who was inspecting the Retreat, he at once urgently pressed him to join his company, at the same time telling him the names of persons who were to go along, and also the route to be followed by different members, through China, Japan, and India, returning by the way of the Suez Canal to Liverpool, and thence to America. He no longer

The following is a specimen of writing by a patient with primary delusional insanity, who has been in the Retreat for nearly twenty years. She makes these marks, or letters, as she calls them, with great rapidity, and has covered reams of paper with them during former years. Of late she has written very little. She claims that she is unable to explain how she performs the writing, as it is done involuntarily on her part, except in the holding of the pen on the paper. Some influence, "like that of inspiration, causes my hand to do the writing."

[illegible]

talks of being deprived of his rights or anything else; he no longer seeks seclusion, or wishes to avoid his friends, but he feels that he has passed into new and enlarged conditions of life.

He sees resemblances between persons whom he meets and people of distinction whom he formerly knew, and calls to mind trifling incidents in connection with such persons, dwelling upon them as of the highest importance. Generally there exists a basis or thread along which he strings his delusions, and this is his experience in holding political offices several years since. He has now fully recovered his health, was never better in his life, and never better situated or qualified for the discharge of the most important duties of his high station. He has studied the character of the government, the customs and habits of the people to whom he is to go; has carefully traced out the geographical features of the country and the location of the most important places, and will tell all about them with the utmost care and seriousness.

During the first portion of this transitional period there were two or three weeks in which he was constantly engaged in drawing up legal papers for the purpose of suing the officers and directors of the Retreat, bringing forward suits of several hundred thousand dollars. These papers were all prepared with great care, and addressed to sheriffs to be duly served, and after awhile, finding no results from his efforts, he became suspicious and distrustful, especially of the attendants to whom he had given the papers.

He used very harsh and opprobrious language, then struck one of them, and threatened to kill all of them, d—g them all to h—l, as the cause of his misfortune. He exercised neither reason, reflection, nor common sense, began to break up his furniture and destroy his clothes, to spit on the walls

of the hall and room, urinated on the floor, and resorted to all the means he could devise to annoy his attendants.

But since the delusions of exaltation have appeared, this destructive tendency, and the accompanying irritable, irascible state have passed away. He is now bland, calm, affable, and condescending to all with whom he has anything to do.

The last case which I shall present, as illustrating the character of symptoms, is one in which the transformation has taken place. So far as the history of the case indicates, however, there has not existed so profound a state of persecution as has existed in the other cases detailed.

A. H., aged twenty-seven, single, a farmer; a Seventh-day Adventist; has had a common-school education. His father was eccentric and his mother insane late in life. He is quite ingenious, something of a mechanic; rather studious and thoughtful, and has invented some kind of a valuable machine; is suspected of masturbation. On admission it was stated that he had been peculiar for two or three years; had written a letter to his sister with blood from his arm; and had peculiar ideas about the Bible and inventions. He believes that he has been sent by God to preach, and has been going about from place to place for this purpose, carrying with him a two-edged sword, and wearing a fantastic suit of clothes. He has also distributed tracts in regard to himself as a prophet and "the man on the white horse" in Revelations. At times thinks he is persecuted; sold some property some time ago, and since has the idea that he has been defrauded in the transaction; spends a large amount of money on trifles; has threatened to kill several persons, his own sister among the others; and, a short time before his admission, was arrested and locked up in jail for throwing his sister's clothing out of the windows and threatening her.

He came with a self-satisfied, pious expression of countenance, and with a Bible under his arm, and emphatically denied that he had ever displayed violence toward any one, but says "he preached the Gospel and distributed tracts," and that this was what got him into trouble. He controls himself and says that he is aware that he is eccentric, but derides the idea that he is insane. He says he carried his sword and adopted the peculiar costume to attract attention, and it proved "a powerful agency." He claims that his sister and her husband ill-treated his mother, and justified his treatment of her on this ground. After a residence of some days in the institution, he became very talkative, scouted the idea of being insane, and said the joke had gone far enough. His religious experience had been such that he was called upon to make it public. He knows more about the Bible than any one else in these degenerate days, and by his careful study is better qualified to treat the Scripture than any divine; spoke of the rottenness and hypocrisy of the churches, and claimed that there was no good in them; claimed that there were immoral women in them, and that four such had invited him to bed with them, and exposed their persons to him. When asked concerning his belief, and whether his conduct at home and in the streets was not such as to cast doubt on his sanity, he replied, in an injured tone, that martyrs in all ages had been persecuted for their beliefs; that he had been persecuted and hounded, and that he could prove from the Scriptures who and what he was; and with a triumphant expression of countenance turned to the forty-ninth chapter of Genesis, eighth and tenth verses inclusive, and read them. He claimed to be the Shiloh referred to. When asked why he thought himself the Shiloh, he turned to the nineteenth

chapter of Revelations, fourth verse, and said therein was set forth the reason why he wore clothing of bright colors, as he was the person referred to. To prove this he turned to the second chapter of Revelations, twentieth verse, to the end of the chapter. He said the adulterous woman had been shown him in a vision sent him by the Lord about one year ago. He was also at this time shown a book, the edges of which were bordered with gold, and also a number of other things. The angel of the Lord told him he was Shiloh, and told him he was Jacob; cited the fourth chapter of Isaiah, first to fifth verses, as confirmatory of his vision about the woman, and then read from the first to the seventh verses of the eighty-third chapter of Isaiah, as another reason for wearing red clothing. Later on he became irritable, and called himself a martyr, and spoke of being persecuted for righteousness' sake. Spent much of his time in reading and commenting upon the Bible and historical sketches relating to Bible countries. After a year he became rather less irritable, and began to write love-letters to any females whom he might chance to see. I here introduce one to show the consecutiveness of his thoughts, as well as their tendency:—

“Marriage is Honorable.”

God is love. Oh, pretty Mary—why should I hesitate longer to ask you for your pretty hand, when you have told me in actions which speak louder than words that you would give it to me willingly; will you, pretty one? Oh, how sweet it would be to have it magically twine around my neck in holy love so pure, so sacred. Oh, so angelic. Oh, what an angel companion you would be to me, helping me to publish salvation, and to spread knowledge to a people in darkness. A world in darkness made so by many preachers or pastors; see Jer. 12, 10; please write me a few lines, Mary, please do.

This letter was addressed to one of the employees in the kitchen, and for several months he continued to write and

address foolish and improper letters to various employees. He then changed and became more irritable and profane, and would utter curses on all those instrumental in detaining him. Claimed to be King David, and said his time would yet come. He would get revolvers and two-edged swords and exterminate his enemies. A few months later he wrote to the assistant physician as follows: "I believe we have reached that point in the time of prophecies that through the testimonies we may see the effect of every vision. The great day of deliverance is at hand, the day of trouble is at hand. Na. 1st, and 7th, Dan. 12th 1st. Is it insanity to believe this and proclaim it. How is the process of deliverance to be effected? Is it not to put on the garments, the beautiful garments, to represent one's strength. See Isaiah 52, 1-8, Na. 2, 3."

Prognosis.—After the transformation has taken place, periods of depression and suspicion may return, but they are generally of short duration. When the primary condition is one of exaltation, it does not become transformed into one of persecution in the same manner as that of persecution does into one of exaltation. The prognosis is always unfavorable after transformation has occurred. In my own experience it has been unfavorable in both forms of the disease.

Cases of the first variety are, however, said sometimes to recover. When such an issue occurs, it is found to be in acute cases, and in those in whom the constitutional bias is not deeply rooted, but when the disease has developed mainly from accidental experiences.

It is important not to confound **mere remissions** with **recoveries**. Periods of considerable length sometimes occur during which the intensity of the delusions is greatly modified, and the patient may appear to be far on the road

to recovery. Such periods have existed in both the first and third cases detailed above, and it has seemed to friends as if they were nearly or quite well. But they are generally of short duration, and from some slight cause, such as a disappointment, or a failure to secure what has been expected, or some trifling bodily illness, the old delusions suddenly spring into new vigor and activity. Not very unfrequently the patient succeeds in concealing his delusions and hallucinations for a considerable time, especially when by so doing he expects to gain some desired object, such as his personal liberty, or a permission to return to his home.

Treatment.—This will include a residence in some asylum or home especially designed to secure the requisite care of the case, and so far as possible shield him from those occurrences which would act as sources of irritation and increased excitement of existing hallucinations and delusions. When the exciting cause has been that of masturbation, the bromides in large doses are often of service in allaying the irritation of the sexual organs and the attendant hallucinations. Opiates may also be used to relieve the sufferings which arise in connection with the delusions of persecution, and also to allay the supersensitive state of portions of the nervous system. Out-of-door exercise in walking or some kind of light employment will prove a relief by occupying the attention and diverting the mental activities into other channels.

Those cases which come under care and treatment at an early stage of development, and which arise largely from some exciting experiences in the history of the individual, may sometimes be benefited by a systematic course of physical exercise, such as may be secured by calisthenic or gymnastic practice. This should be conducted under

the direction of a physician, or trained attendant, with great regularity and persistency, during several months. The physical improvement secured in this way may have a favorable effect upon the mental state, while the change of thought and increased power of attention will tend to correct the marked character of the concepts, ideas, etc.

LECTURE XII.

FOLIE CIRCULAIRE.

Cases of Folie Circulaire Not Numerous—Impossibility of Deciding Beforehand whether a Case of Mania will Eventuate in Folie Circulaire—Two Stages of the Disease—Ætiology—Heredity—Climatic Influences—More Frequent in France than in England—Symptoms—Those of Mania—Mental and Physical Faculties Become Excited—Period during which the Patient is Relieved—He Passes into the Stage of Depression—During the Excited Period Confusion of Ideas Rarely Exists—The Memory Good—A Moral Defect Present—Dress and General Appearance—Craving for Stimulants—Painful Emotions—Forebodings—Desire to Remain Indoors and Frequently in Bed—The Length of a Full Period of Excitement and Depression—Case—Patients May at Times Exhibit Very Little Mental Impairment—Importance of Recognizing the Character of the Disease—Case—Prognosis—Recoveries.

Less than one-fourth of one per cent. of those cases which have been admitted to the Retreat and classified under the head of mania and melancholia have proved to be cases of folie circulaire, or have eventuated in a special combination of symptoms which has been properly designated by that term. When examined from a clinical point of view, it is doubtless of little importance whether this group of symptoms be regarded, as it was by most writers of the last generation, as one of the terminations of acute mania, or as a special genus of insanity. It certainly appears to be quite impracticable to determine beforehand whether a given case will prove to be one of mania with a sequel of recovery or chronicity, or one of folie circu-

laire. It does not appear that there is any pathognomonic distinction between the symptoms incident to the initial excitement of mania which eventuates in recovery and the mania of folie circulaire. It is claimed that the intensity of the excitement is less than usually exists in mania, and this doubtless is true in subsequent periods of excitement, after the first one or two, and after the regularity of the two kinds of symptoms has become fully established, but there is no evidence that such is the case during the initial maniacal attack. Indeed, there can be no standard or measure of the excitement incident to mania, but, on the contrary, the largest difference is found in different cases, and yet with no corresponding results in the way of a sequel of folie circulaire.

It has been thought more probable that a termination in folie circulaire arises not from any special element of brain character which has formerly existed, and which is peculiar alone to those cases in which it appears, but rather from an exaggerated development of that habit which is common to all brains, namely, a tendency toward reaction. Excitement invariably tends to produce an after period of depression; unusual brain activity is followed by unusual quiet and inactivity; an excessive state of hilarity and happiness by one of dullness and depression. This physiological tendency toward action and reaction extends to all the organs of the system when in health, within certain periods or cycles, and tends to become established upon a morbid basis after experiences of mania. In a very small proportion of cases this tendency becomes converted into an actuality, and we have that special form of insanity which has been named from the peculiarity of its symptoms *folie circulaire*

Now whether this reasoning is based upon correct prem-

ises or not, it is unnecessary to inquire further, inasmuch as all admit that distinctive characteristics pertain to some of the symptoms, when the special character of brain action has become established. These relate, first to the development of two distinct stages, which succeed each other with some regularity; second, to an established periodicity; third, to the special character of symptoms present in both stages of progress; fourth, to an unfavorable prognosis. These several elements of character, and others to be referred to, render it appropriate to regard it as a special genus of insanity.

To Falret and Baillarger belongs the honor of first differentiating and describing this form of insanity under the term of *folie circulaire* or *folie a double form*.

Ætiology.—Hereditary tendency toward insanity has usually been regarded as the strongest factor in the causation in this special form of disease; and it is found in clinical experience that nearly all persons so affected have such an inheritance. But this element of ætiology exists in a hundred cases affected with other forms of insanity to every one with *folie circulaire*; there is, therefore, nothing whatever distinctive in it as a cause. And there are exceptions to the general rule, one of which has been under my own observation, this case being a well-marked one, and extending over a period of many years. It is quite possible that climatic influences are operative in rendering the system more susceptible and liable to take on such periodic changes in its mental activity. French authors refer to this group of symptoms as more frequent in their experience than do either English or American authors. Dr. Savage says he has had almost no experience at the Bethlehem Hospital in London with *folie circulaire*. I am, however, inclined to regard the physiological tendencies which

exist in all the organs of the system toward reaction, and to which allusion has already been made, as a more powerful factor of causation than any other.

Symptoms.—The earliest symptoms present may be either those of depression or excitement, but in the larger per cent. of cases the initial period is such as attends ordinary cases of mania, that is, one of depression. This passes by in the usual time and manner, and the symptoms of mental and motor excitement succeed them. All the mental and physical faculties become exalted; the memory becomes excessively acute, and the intellect abnormally active, while courage and self-confidence become boundless, so that no enterprise is too difficult to be undertaken and carried through to successful results. This period of excitement, however, is not followed by convalescence and a perfect recovery. The patient passes into what may be termed neutral ground, between excitement and depression, where he lingers for a longer or shorter period, and then becomes again depressed. When this rhythmic movement of mental states from depression to excitement, and *vice versa*, becomes fully established, we have the typical form of folie circulaire.

Now, with reference to the character of the excitement and depression, while it may be said that in a general way they resemble those of mania and melancholia, the one alternating with the other, yet in both states there exists a special character of mental activity. There is a more perfect sequence of thought during the excitement, and there is rarely any confusion of ideas. On the contrary, they are generally remarkably clear and well-defined, but combine to form judgments which are merely childish. The patient understands what he desires for the time being, what he has said, and what others have done in relation to

him, and can recall it with distinctness afterward. The memory seems to have attained an unusual power; not unfrequently he is himself conscious that he is abnormally excited, but as the field of consciousness is so clear, and the memory so active, he scouts the idea that he is insane. The intellect appears to act along definite lines, and with a purpose which is appreciated for the present moment, but has no reference to the future, and seems to be destitute of the judgment and common sense which is expected even in a child.

Not unfrequently a film seems to obscure the moral element of character, and patients who have borne the highest character for truthfulness and integrity become perverted and immoral; they lie and deceive in all conceivable ways, become amorous, forsake their wives, and are constantly running after profligate women. They invent the most improbable stories about their best friends, and repeat them to whoever will listen to them.

Ball reports the case of a young woman affected with folie circulaire who, while in the excited period, became pregnant, and was finally delivered of a child while in a succeeding state of profound depression. Some patients appear to take special delight in arranging their dress in strange and fantastic methods, and in adopting and dressing in old and torn garments. The more grotesque their appearance the more satisfied they become. This is especially noticeable in erotic cases, who seek after bright colors. The attention is, however, much more easily turned from one object or subject to another than is common in acute maniacal cases. The brain centres from which the gustatory nerve arises are probably excited, and the patient develops a craving for stimulants of all kinds.

There is also a special character to the symptoms of

depression. This is not so profound as in uncomplicated melancholia, and in none of the cases which have come under my observation has there existed a state of stupor. On the contrary, the mind continues to be active, but the activity is one of introspective character. It no longer roams over boundless fields full of impracticable projects or schemes of speculation, but, on the contrary, is constantly active in a severe self-recrimination and a constant self-depreciation.

A limited section or limited sections of the brain have probably become supersensitive, and the consciousness is full of painful emotions, more especially because of what has been said and done while in the former state of excitement. This is all recalled and recounted again and again, and the conscience is stung with remorse, while a constant foreboding is present as to what may be in store because of the past. As if in some manner to make amends for the past, patients exhibit an entire change in reference to dress and personal appearance. They are no longer careless, dirty, unkempt, or negligent, but are quite the opposite, and are filled with wonder and horror because they have so far departed from the proprieties of life to which they had so long been accustomed. The abnormal tendency to be constantly on the move disappears, often as if by magic, and the patient who could with difficulty be satiated with physical exercise last week, or a few weeks ago, is to-day ready to remain quietly in his chair, or even in bed; and the patient who a short time since was taking with a strong appetite and unusual relish a large quantity of food daily, now requires to be urged to take food at all, and is growing thin in flesh. The patient who was for weeks and months the first on the hall to be up and dressed and anxious to be out for a walk or a talk, has now to be urged

to rise in season for breakfast, or to engage in any conversation whatever.

The physical conditions do not appear to change so much as the mental in passing from a period of depression to one of excitement except in relation to an increase in motor activity. A tendency toward, and a capacity for this, is very marked, as is also the degree of self-confidence and courage for undertaking new and untried enterprises. During the period of depression the patient loses flesh, is dull and unhappy.

The length of time required for the nervous system to pass through one of these periods of excitement varies greatly in different patients; indeed, so greatly that two cases rarely coincide in this respect. Without doubt an occasional case may be affected by the seasons of the year, becoming excited during the summer, and depressed during the winter. This may also be reversed in relation to the seasons. In other cases the whole period may not extend over a few days or weeks. One case has been under my care in which the periods of excitement and depression each extended something over two years, and the transition from one state to another was very gradual.

Another patient, now under my care, was in the stage of excitement when admitted, and remained so during nearly three years. After an intermediate state, lasting only three or four weeks, he quite suddenly passed into the stage of depression, and has not spoken one word, so far as known, during the last eighteen months. He is reported to have passed a period of three years once, before he came under my care, without speaking, and then became very talkative. Another patient passes over both the states of excitement and depression, with a short intermediate state, every month. This has continued more than seven years.

Ball mentions the case of a female in the Hospital of St. Antoine who was sad and depressed on every alternate day, and excited, talkative, and at times delirious on the intervening days. The changes attained to the perfect regularity of an intermittent or malarial fever. For such cases, and those in which the period is very short, he suggests the term **folie alternate**. He cites another case which came under the observation of M. Brierre de Boismont, in which there occurred regularly three days of depression and three days of excitement, with apparently no intervening lucid interval.

The following case of intermittent insanity is under my care at present time of writing :—

W. P., aged thirty-five, single, an entomologist by profession, of high order of intellect, a graduate of college, has been affected for two years, exciting cause supposed to be sunstroke, has been in the Retreat more than a year, and with condition essentially unchanged. He remains in a favorable condition for eight or nine days, and then he is able to converse and walk about the grounds; talks with attendants and friends; is interested in his specialty; observes the habits of insects and birds, as seen upon the grounds, and remarks upon them; takes long walks into the country, etc. On the eighth or ninth night he passes into a condition of partial mental stupor; does not rise in the morning unless made to do so; covers his head while in bed; does not reply to questions; does not attend to his personal needs; soils himself; sometimes gets out of bed and lies on the floor, or gets his head under a chair, or into a corner of the room. At other times is found with his feet upon a chair and the rest of his body upon the floor; laughs and mutters to himself, but says nothing intelligible, and only takes food as it is given to him. He remains in

this stupid state generally from sixteen to eighteen days, or very nearly twice as long as he remains in his favorable state. The return to this, however, is not so sudden as to the unfavorable condition, but generally covers two or three days. Prior to his admission to the Retreat, he attempted, on several occasions, to resume his professional work when in this favorable condition, but never succeeded in working more than a few days, when he would become dazed, dull, and wander away.

In a large number of cases of folie circulaire there exists a considerable degree of correspondence between the duration of each of the stages, but this is not true in so large a proportion that it can be regarded as a rule. During one cycle, the excitement may cover double the length of time passed in the state of depression, and during the next cycle this may be reversed. The length of time during which the brain may remain in its most favorable state of activity may extend over only a few days or weeks, or again over some months, but cases rarely correspond in this respect more than in others.

The degree of mental clearness also varies greatly in different cases, but is rarely perfect. Indeed, the condition of mind is not easily described. Not unfrequently, however, patients exhibit so little of mental impairment that they are regarded as sane by friends, and are permitted to enter upon the ordinary avocations of life, and even to initiate schemes of a speculative character, by means of which they lose large sums of money. These operations are usually undertaken during the initial stage of one of the earlier periods of excitement which succeeds the state of comparative mental integrity, and relatives find it difficult to relinquish the hope of a perfect restoration which has arisen in consequence of a partial recovery. In view

of such unfortunate consequences, however, it will be observed how important it is for the physician to recognize the true character of the disease, and thus enable friends to guard against unwise courses of conduct. It will also be important, in view of the fact that such cases very rarely recover, while the reverse is true of uncomplicated cases of mania and melancholia.

Baillarger refers to cases in which periods of calmness and lucidity extended over several years. The question arises whether such cases would not more properly be considered as those of recurrent mania.

The following case illustrates most of the peculiar features of folie circulaire, and is remarkable for the length of time during which it continued, and for the degree of strength of mind exhibited by the patient until the very last.

E. H., a dentist, aged seventy, married and has several children, was admitted to the Retreat in 1870 from another institution. He was reported to have been insane at times for many years; his disease being attended with periods of marked excitement and depression; was reported to have been during his excited periods disposed to enter into business transactions on a large scale; had made investments in worthless property, and thus lost a considerable portion of his estate. When admitted he was depressed, and not disposed to talk except when spoken to; had formerly threatened suicide, but his wife thought that "there was not very much wrong with his mind." He complained of uneasy sensations about the region of the stomach and the liver, and of pain after taking food; also complained of the effects of medicine, but his physical appearance was that of very good health. After two or three months the feelings of depression gradually passed away and he became

cheerful and talkative ; had the liberty of the lawn ; desired to go to the city unattended ; said that he never felt better in his life, and desired to engage in doing some dentistry work for any one who would employ him. He soon began to abuse the privilege of the lawn by going to the city without permission, and charged excessive prices for work done for such of the employees as consulted him. Before long he became desirous of going into the country, where he could have more liberty, and enjoy tramping through the woods. He was finally permitted to go away with his wife, with the understanding that if, in her judgment, he ought to return again he would do so.

He was readmitted in June, 1873, this time in a condition of excitement ; was brought by an officer, and declared that it was an outrage ; that he was never better, and that his detention was neither more nor less than imprisonment, that it was illegal, and brought about by a self-constituted court ; that he should take occasion to right himself before the public, as his life had been blameless, and he had contributed large sums of money to the religious denomination to which he belonged, etc., etc. ; threatened to prosecute those who had placed him in the Retreat, and those who detained him, as soon as he should have his liberty. After two or three months he became more quiet and rational, and after a detention of nine months was allowed again to go to the country. He remained there, however, but a short time before he was returned, and this time in a depressed condition. Thenceforth he remained in the Retreat until his death. The condition of depression passed off as usual, and he gradually became active both in mind and body ; he took long walks in the country, dressed in a hunting-jacket and top boots, and would tramp over the hills all day if permitted, and tire out any strong attend-

ant who might accompany him. He used a large supply of food daily, and was always up long before breakfast and ready to converse with the first person whom he might meet, stating his plans for the day; at one time he had schemes for lighting the city by some new system which he had devised, and on another occasion he made a contract for paving two or three of the principal streets of the city; at another time he had an invention which he had recently perfected for making artificial teeth, and he desired to go to Washington for the purpose of securing a patent upon it at once, before some other enterprising dentist should get the start of him. When this was refused, he threatened and said the Retreat would be obliged to pay for his loss, as his detention here prevented him from becoming a very wealthy person. Afterward he was extremely anxious to work about the lawn, at times in trimming the trees and shrubbery, but he could not be trusted to do anything alone, as he would cut away nearly all the limbs of the trees, if permitted to do so. The attacks of alternate excitement and depression continued until his seventy-seventh year. During many years he had an enlarged prostate and latterly cystitis. He gradually failed during the last period of excitement, from the loss of sleep, pain, and irritation attendant upon the disease of the bladder.

When excited there was nearly always so much of method in his plans, and he was able to explain them in so plausible a manner with some seemingly satisfactory reason, he was so confident that he was all right himself, and that there was no need of restraint or caution in reference to him and his plans and movements, that persons casually meeting him could not think him insane and needing restraint. As has been before remarked, even his wife thought "there was not much wrong with his mind."

While never specially attentive to the female sex, yet he was extremely polite, and was always suspecting others of being more than polite to them.

During the initiation of the final period of excitement, he left the grounds without permission and went to the United States Hotel, engaged a suite of rooms, returned to the Retreat, and told what he had done, and said that he intended to celebrate his seventy-seventh anniversary there, and also hereafter to make his residence at that hotel. When told that he must remain at the Retreat, he became very irritable and much excited, on one occasion struck the attendant, and on another threw a quantity of water over the steward while he was passing through the hall, and when expostulated with, struck him a violent blow on the head, and declared that all the officers and attendants of the institution were frauds and cheats, and he would burn the buildings down before he left them. Such violent conduct, however, had never been exhibited on any other occasion of his excited periods.

The melancholy, during his periods of depression, was never of a very profound character; it usually appeared quite suddenly after what was apparently a culmination of the excitement, or after it had arisen to such a degree as to require decided measures of restraint. All at once he would be found in the morning sitting quietly in his room, properly, and even carefully dressed, and sometimes reading his Bible. When questioned he generally replied in a subdued, quiet tone, and was always confident that he should never recover; he seemed humble and exceedingly mortified at what he had done when excited, and carefully hid away his shooting-jacket and top-boots. During these periods he attended the chapel exercises regularly, and gave the closest attention to what was said and done;

his appetite became less, and he invariably complained of dyspepsia; he never left the hall for a walk, or even his room, unless requested to do so.

The whole round of excitement, depression, and comparative insanity, after he came to the Retreat, generally covered about one year. Whether the experiences of the many years prior to that time were limited to a like period, does not appear from the history. In this case the favorable stage generally continued nearly twice as long as the conditions of excitement and depression. The state of excitement for many years was during the summer months.

In three or more of the cases of this form of disease which have been under my care, and one of which at the present time of writing is in the Retreat, the period of excitement has been in the winter season.

Prognosis.—The prognosis in cases of *folie circulaire* is always, or nearly always, unfavorable. This, at first view, seems to be remarkable, especially as the group of symptoms consists of a combination, in rhythmic alternation, of those present in two forms of insanity, mania and melancholia, in both of which, when uncomplicated, the prognosis is usually favorable. The explanation, however, may be found in one of the elements of its ætiology already referred to, *i. e.*, the powerful influence of a morbid habit which has become fully established in the delicate tissues of the brain.

A similar habit, or a recurrent morbid action, affecting other sections of the brain tissues, is found in cases of epilepsy and chorea. Recoveries are exceedingly rare in both of these forms of disease when chronicity has once become established. We are unacquainted with any form or system of treatment which has thus far in the history

of the treatment of the disease proved to be of any avail in arresting its continuance and progress.

Patients not unfrequently live many years, retaining a considerable degree of their normal vigor, and do not usually pass into a condition of dementia.

LECTURE XIII.

DEMENTIA.

Dementia and Idiocy—Distinction—Definition of Dementia—Importance of Averting an Issue of Dementia in Cases of Mania—It Rarely Occurs as a Sequel of Delusional Insanity—Symptoms—The Degree of Dementia Varies Very Much in Different Cases—Prevalence Among Chronic Cases—Periods of Excitement—The Transition to a State of Dementia is Generally Gradual—Third Class of Dements—Symptoms—Delusions—Sequential to Attacks of Mania and Melancholia—Three Forms of Dementia—Tendency to Merge into Each Other—Lines of Clinical Distinction Cannot be Definitely Drawn—Cases 1 and 2—Prognosis in Primary Dementia—In Secondary Delusional Insanity—Treatment—Importance of State Provision for Proper Care—Two Methods—Boarding Out of Such Patients Among Farmers—Public Institutions—Advantages of the Latter Method.

From the time of Esquirol to the present a distinction between **dementia** and **idiocy** has been recognized by alienists. It is not easy in a few words to accurately define either of these mental states. They resemble each other in the presentation of similar and important features. In both there exists an enfeeblement of the mental faculties, and in extreme cases almost an extinguishment of the intellectual life. But in the idiot these faculties have never existed except in a nascent state; the brain centres upon whose activities they depend for exhibition have never become developed. Hereditary, conceptional, or pre-natal influences have crippled the structural growth before *post-partum* experiences began to exist.

Not so with the dement. In his case the development

of faculties, mental and physical, may have been, so far as external indications gave evidence, as perfect as in ordinary children: the unfolding of both proceeds *pari passu*; but after the experience of some form of mental disorder, or a long-protracted mental strain, generally during the adolescent period, there supervenes a cerebral affection which Esquirol has described, in a few words, as "ordinarily without fever, and characterized by enfeeblement of sensibility, intelligence, and the will." Another form of expression would be—**impairment**, of the **psychical, sensory, and motor centres of the brain**.

This **definition**, however, does not adequately differentiate dementia from idiocy—nor does it indicate the somewhat extensive range of mental conditions which it is used to cover. In one way all insanity indicates an impairment, and consequently an enfeeblement, of the mind. Certainly all legal insanity presupposes this, and, in consequence of it, the legal procedure in restricting the liberty of the individual, and assuming the care of his property, is instituted. But the term dementia is used in medicine in a more restricted sense, and is applied to mental states which generally are sequential to other forms of insanity. Indeed, there exists no doubt that in the large majority of cases it is consecutive to mania, melancholia, and alcoholic insanity. This is the issue which is to be dreaded and if possible guarded against in the management of these forms of disease. **Age and inheritance** are influential factors in averting its advent. After thirty or thirty-five years of age, the brain has become so developed and its cellular structure so fully invigorated that it more readily endures the experience of excitement without failure of its energizing capacity. Discipline of the mental and physical organs in early life is of the highest importance as a preventive.

In cases of primary delusional insanity and folie circulaire, dementia rarely occurs until after many years, and it is then much less pronounced in character. Instances are on record in which the latter form of disorder has existed with its alternate states of excitement and depression during twenty and even thirty years without the occurrence of pronounced indications of dementia. An instance of this kind is described on page 251. The brain which is handicapped by inheritance, or enfeebled by excesses or unfavorable hygienic influences, is the one that succumbs after the experience of an attack of insanity.

Symptoms.—The acute and active manifestations of mania, the mental pain and self-accusatory conditions of melancholia, generally subside in the course of a few weeks or months, and sometimes are succeeded by a condition of profound quiet. The patient remains for hours, if permitted to do so, by himself, with his eyes closed, or looking on the floor, with little movement of the person or with little expression of the face. The form which in health had been so active and full of bounding life, energy, and happiness, with all the possibilities of human intelligence and enjoyment before it, is now, after the storm of an acute attack of insanity has passed, an abject and pitiful sight; sometimes too indifferent to take even the requisite amount of food and drink, or to attend to the calls of nature; in a condition which has been rightly termed the “tomb of human reason.” All “the pride and splendor of the intellectual life” has faded away into a darkness so profound that it seems impossible that the light of reason should ever again penetrate and banish it.

The intensity and character of this state, however, varies very largely in different individuals. With some it is com-

paratively slight; you will discover no delusions and observe only that the mind has less than its normal activity and is partially indifferent. It requires more than usual to rouse and interest the person, to engage the attention; but when he once becomes interested, the mind appears to operate slowly and in its usual channels of thought. Replies to questions and ordinary remarks will be free from anything abnormal, and the judgment correct concerning such daily experiences and occurrences as he passes through.

Between these two conditions there are all shades and degrees of mental enfeeblement and peculiarities. In passing through almost any of our older asylums, you will find more than half the number are the results of antecedent attacks, and that they present evidence in dress, countenance, gait, speech, and almost every act, that they are no longer like their former selves. They constitute "a hopeless majority."

Young men who in former days had experiences of ambition, and dreamed, as we all do at times, of that golden future when our long-cherished hopes and aspirations shall be more than realized, men whose abilities gave promise to their friends and companions of preferment in the walks of professional or political life, to-day walk only those dreary halls, from which ambition and pride have forever fled away. Those loves and hopes which are born and nurtured of a healthy mind no longer haunt the recesses of the brain, but in place of them there float through it dim, shadowy, and grotesque forms of the conceptions and opinions which once held sway there, but which now constitute a kind of inner world by themselves. If, for a moment, some old emotion or ambition comes welling up through the channels of thought, trying, as it were, to force

itself into reality, it seems to flicker away and die, like a miserable abortion. Or if the physician comes along, and with a friendly look, touch, or word tries persistently to rouse the inner self into activity, and to recall some long ago familiar name, or snatch of song, or face, the light, perchance, may come again in the eyes; some expression of remembrance may escape the lips; some sentence implying the exercise of memory may be uttered, and then silence reigns within.

Again, there come periods of over-activity, when thought after thought flashes through the brain, and the power of memory comes back with unwonted activity. The scenes of bygone years, the experiences of youthful days supposed to have been buried long since in the shadows of cortical oblivion, come back again fresh and clear as those of yesterday. The mind recounts and revels in them, as in the freshness of youth-time. Such exhilaration of feeling comes over the brain that the patient will tell you he never was so well in his life, and all the assertions of all the doctors in the universe can never convince him of the contrary.

It would be a mistake to conclude that patients pass at once from the excitement and exaltation in mania or the depression of melancholia into the state of dementia. On the contrary, the transition is a gradual one; in some, extending over a few weeks, and in others, months. The emotional states become less acute and pronounced, the sentiments of dislike and hatred give way to a state of indifference, the excitement of motor activities becomes less and the pronunciation of words relatively slow. Irritations of the periphery reach the sensorial centres and produce a more feeble reaction. The memories of recent events do not spontaneously revive, nor can they be called into con-

sciousness. The patient is unable to execute any of the fine muscular movements in doing work of any kind. He does not read or write or express a desire to see his friends. He becomes more and more silent and has few wants. He easily loses the thread of his thought, and fails when he makes an effort to respond to a question if it requires several words. Concepts which may rise into consciousness are not accompanied with others, or, if they are, do not combine to form purposes, or retain much of sequence or order. One by one the mental and physical faculties seem to shrivel and become almost useless, until the picture of dementia becomes complete, and the patient becomes only a wreck of his former self.

There is, however, a third class in which the abnormal mental activities issue in a state to be differentiated from those already referred to. They neither sit in the darkness of dull silence and sluggish bodies, indifferent alike to sunshine and cloud, heat and cold, nor are they swayed by the occurrences of mental storms which sweep through the brain from time to time, always leaving it weaker, duller, and less responsive to external stimuli than before. They pass into a mental condition which partakes only in a slight degree of these states, and are never greatly excited nor much depressed. The emotional and physical elements of mania and melancholia are absent, and yet the mind is buoyant and hopeful. General sensibility is diminished, but the organs of sight and hearing are generally free from hallucinations, and the automatic activity of the brain is often increased. Impressions from without reach the sensorial centres, but are imperfectly radiated to the cortical centres; or, when radiated, result in incomplete ideation; the co-ordination of certain nerve elements essential to this process is wanting, and hence the disjointed and ragged

character of ideas and beliefs. Impressions made upon the periphery follow each other into the brain quickly, but are rarely formed into a normal totality. In short, the combined activities of the ideational centres, which are essential to the formation and synthesis of concepts and ideas into normal beliefs and judgments, have become deranged. The attention reaches only the most patent qualities of things, and is expended on what first reaches the sensorium, while that which constitutes the remaining and most important part is unheeded. Hence, impressions are transient and remain unrecorded; the ability to recall former ones is impaired, as is also the capacity to form logical inferences and correct judgments, while imperative concepts rule the range of mental activities.

Such changes in the psychical centres and their activities doubtless constitute the basis of **delusions**, which present the most striking feature of this morbid mental state. But they are to be distinguished in the character of their genesis from those which arise in primary delusional insanity. They are always sequential and secondary to the states of mania or melancholia, while the latter are rarely or never so. They generally relate to one or to a few subjects, and hence the condition has been termed **monomania**. And if this name is to be used as descriptive of any class of cases, that which we are now studying is the proper one.

The maniacal state, however, **rarely or never appears** in those cases which are typical ones of the class under consideration. They never become excited or indignant in view of the contrast as between what they believe themselves to be and the conditions which surround them. Their liberty, the first essential of kingly prerogative, is abridged, and they become servants and useful helpers about the halls and in the laundry and kitchen, and yet fail to perceive

any incongruity with their pretensions in so doing. The element of **weakness** or **dementia** is, after all, the one most conspicuous in the character of mental activities. This is certainly the case **after** the states of mania and melancholia have fully passed away. While some of these still remain, and the secondary state has not yet become fully established, the patient may at times become more or less excited or angry, especially if his claims and pretensions are not recognized and acceded to or his assertions are contradicted. He may, during the stage of transition, be able to appreciate the impropriety of his doing any menial service, and protest in an emphatic manner if urged to work. But in proportion as the mental activities which have been conspicuous in the person's emotional states subside, and the field becomes more and more limited, does the definiteness of some delusion or delusions become pronounced, and the element of **dementia** in all the higher ideational centres become apparent.

Here, then, are three more or less distinct classes of cases which have taken rank under the term **dementia** :—

1st. Those who in the outset do not experience any distinct or protracted period of mania and excitement, but soon become less and less responsive to external stimuli; exhibit a constantly diminishing interest in the past or their present surroundings; become apathetic, careless, and negligent of person and proprieties, with little or no spontaneity of mental activities, and move forward in the downward course to a permanent state of dementia. 2d. Those who are, the larger part of the time, in a state of partial dementia, but experience periods of maniacal excitement, generally attended with transient delusions or hallucinations; and 3d. Those whose mental activities are dominated chiefly by imperative concepts and one or more

systematized delusions, which mainly cover the field of consciousness.

The mental state covering the first class has been termed **primary dementia**. That of the second, **secondary dementia**, and that of the third, **secondary delusional insanity**. The first is the most typical form of dementia. The others are secondary, always sequential, and exhibit more or less of other phases of mental disorder. In the first, the whole physical system sympathizes with and corresponds in the discharge of its functions with the mental state; while in the other two forms this correspondence is partial and sometimes very slight—especially in the third. The ætiology of the first consists more largely in heredity, pre-natal impressions, infantile diseases or accidental experiences of early childhood; while that of the others is more intimately connected with the antecedent morbid experiences of the brain in attacks of mania which have been attended with excessive or protracted emotional excitement. In the first the capacity of the brain for psychical functions appears to have become reduced to, and remains permanently at, its lowest ebb; while the ebb and flow continues in the others at irregular intervals. The brain energy of the one has irrevocably oozed away during the brief day of its earthly life, while that of the others is only shattered and deranged in its manifestations.

It is not, however, my purpose to intimate that there exist sharply defined boundary lines between these forms of mental disorder. On the contrary, while in the more typical cases of each there do exist clinical distinctions, always to be recognized, yet they all tend almost insensibly to pass into each other, the essential common element being **dementia**. That is, they all alike arise directly from a diminished capacity of the brain cortex in securing

for itself, from nutriment and sleep, the energy essential to its normal functional activity.

Case 1 of primary dementia: H. H. is the son of a highly intellectual father and a mother who has been insane for many years. The grandfather on mother's side died of "some form of brain disease." The patient had been kept very closely at study (this having been regarded as the best method of insuring the brain against the development of any inherited tendency which might exist) from early childhood, under private tutors, and urged to the full extent of his ability and endurance. At seventeen years of age he was examined for admission to college, and is said to have passed with a very high stand. Within a few weeks afterward he rather suddenly lost his mental vigor, could not play games successfully with his younger brother, who had been his constant companion. His former interest in, and love for, books disappeared, and, indeed, all ability to be interested in anything. He was taken to the country and spent several weeks of out-door life. Every effort was made to interest him in sports, shooting and hunting, but with little or no effect; listlessness and indifference continued to increase, and he was returned to his home.

At the time of first examination the mind was in a state of apathy and dullness. Questions addressed to him appeared to reach the sensorium very slowly, and often it was necessary to repeat very simple questions two or three times before their meaning was apprehended. Such replies as he could form into words and sentences also came very slowly and with a drawling pronunciation. He would remain by the hour in his chair and rarely initiated motor activities or reading.

Three months later, the mental action had become much weaker. He rarely made an effort to reply to questions ;

had a stupid and dull staring expression in his face and eyes, but when told to rise and walk would do so. When asked to read, would look apparently at the page, but did not appear to comprehend a sentence of what was printed on it. The circulation had become feeble and the hands cold, moist, and clammy. He required baths frequently and friction of the extremities. He walked with an attendant about the lawn, but moved feebly and slowly, with head bowed forward like an old man.

One year after admission he had become a typical picture of a primary dement. He would remain wherever he was located, on chair or lounge, almost without movement of body or extremities, during hours if permitted to do so, with head bowed forward and chin almost on his breast; saliva dribbled from his mouth, his urine and feces were passed at any time or place, with no intimation on his part of desire, and with no appreciation of what had occurred. He never expressed a desire for anything whatever, by word, look, or motion. He never indicated the sensation of thirst or hunger, nor made an effort to take food or drink. When food or drink was placed in his mouth he partially masticated and swallowed it. He seemed to vegetate physically, and thus lived on from year to year. He is six feet in height when standing straight, but without a beard, and his face now looks as young as it did ten years ago.

The next case is of interest in two or more respects. It illustrates the occurrence of an intercurrent disease, or rather of two diseases existing at the same time. It also presents an example of that feature of dementia which is observed in some instances, viz., a tendency to develop rapidly, particularly in loss of intelligence after some unusual experience, especially if it is of such a nature

as to call for any considerable expenditure of nerve energy. This is observed to occur in some instances after a short period of excitement or of insomnia.

F. M., aged twenty-two, well formed, five feet ten inches in height, dark complexion, dark eyes and hair, has a dull expression of countenance but replies readily to all questions addressed to him. He is said to have no inheritance of insanity and was unusually bright as a boy. He was circumcised when ten or eleven years of age, as he had a habit of wetting his bed at night and it was thought this might prove an effectual remedy. He was admitted to the university at the age of sixteen and remained there a year. About this time he exhibited some indications of not being well; became irritable and displayed temper upon slight provocation. His father removed him from the university and went with him to Europe, where he remained and traveled several months. After he returned he was somewhat improved in general health but still gave no indications of interest in study. Nor did he express a desire to enter upon any occupation, and before long again became irritable, restless, and complained that his father had ruined him for life because he had permitted a surgeon to circumcise him. This seemed to worry him and he frequently alluded to it. He would not read, and exhibited no interest in what had formerly interested him greatly. About this time there appeared an eruption, which covered his face and some parts of his body, of the character of acne. He was then sent to a water-cure establishment, but without benefit, and with more decided indications of mental impairment.

At the time of admission the upper part of the face and forehead were covered very thickly with the acneal eruption. It also covered a space between the shoulders, and, to some extent, the breast. There were two zoster (her-

petic) one on the anterior left side and the other on the posterior left. There were also scars on both sides of the body, where zoster had formerly existed and were now healed. He was well nourished, but had cold and moist hands and feet. He was ready to walk with an attendant and was equal to a large measure of daily exercise. He slept well and was inclined to lie during the day, when in the hall, on the lounges, but rarely read or initiated any conversation.

During the first few months after admission he seemed to improve a little, and his father became very hopeful, though an unfavorable prognosis had been given. He visited him often and took him into the city and country. Finally, on one of these excursions, the son suddenly started and ran from his father with great speed, and succeeded in escaping from the city, and remained one night in some woods not very far distant, where he said he slept on the snow. Fortunately, it was not very cold, and he was protected with a heavy coat. In the afternoon of the next day he returned, and told where he had been.

Directly after this experience he began to give indications of greater mental feebleness, became apathetic and dull, and continued rapidly to degenerate, until at the time of this writing he is careless as to dress, and soils himself nearly every night and occasionally during the day. He is fast passing into the condition of the case already delineated.

The **prognosis in primary dementia** is always unfavorable. The mental life of the cortex appears to have run its course and dies from exhaustion, while the organic life of the system still retains some measure of activity and endurance. Its subjects comprise the cases which have passed beyond the portal and are on the farther side of

hope. They are the ones for whom the selectmen and taxpayers of towns and cities never cease, day nor night, to offer prayers, that they may become translated, and clothed upon with glorified bodies.

While the **prognosis** in **secondary delusional insanity** and **dementia** is also unfavorable, yet the prospect is not so profoundly dark and hopeless. Some occasionally recover, and many improve. They retain some degree of mental capacity, which varies greatly in different cases, and a considerable per cent. may, in time, become capable again of accomplishing some kind of simple work, and also of a greater or less degree of enjoyment.

Treatment.—In view of the unfavorable prognosis of dementia it may be regarded as unnecessary to occupy attention in considering the subject of *treatment*. This, however, would be a mistake. Dementia comprises those classes of the insane which constitute one of the great problems of psychiatry at the present time. The manner in which they shall be cared for, the methods to be adopted for their supervision and humane management, certainly forms one of the most serious questions with which modern society has to deal. One point has been pretty definitely settled in regard to them, and that is that they shall be regarded as wards of the State unless they have sufficient property for their comfortable support. Not many years ago it was considered as feasible to care for them all in large asylums which would serve alike for the acute and chronic insane. But as the number increases and the hopelessness of recoveries from among the ever-increasing numbers of them becomes more apparent, the question of economy thrusts itself into the field, and the inquiry is made whether they may not be properly and humanely cared for in some less expensive manner, and also be made to contribute

toward their own support. In former times they were left to roam from place to place, and subsisted on such scanty supplies as they could gather from those who were disposed to feed the hungry. The conditions of civilization have now changed and society is beginning to realize in some measure its duty to interest itself in, and care for, these helpless ones who can no longer care for themselves.

Two methods of accomplishing this have been advocated, and to some extent adopted. The first consists in providing homes for them, or for some classes of them, among the rural population of the State, where they may become members of the families in which they live, and also, to some extent, be employed in such work as they are capable of doing. They are to be under the general supervision of a Board of Lunacy Commissioners, who shall visit them from time to time, and may also be under the professional care of some country physician. It is thought that such a disposition of them would be preferable to life in a public institution, which necessitates a considerable restriction of personal liberty. The objections to this plan consist mainly in the impossibility of any efficient system of supervision, and the consequent liability to abuse and ill-treatment.

The other plan is to place them in public institutions especially adapted to the care and use of such patients, and where they would be under the special observation of a physician and attendants educated for the purpose.

The liability of abuse or unkind treatment would be reduced to a minimum by this method. They could be employed in some kind of labor, according to the judgment of the physician. They can always be sure of an abundance of properly prepared food, occasional means of amusement, and some degree of education in some form. This

plan also secures the possibility of ministering to disordered minds in all known methods, for the purpose of restoration or improvement; and if recoveries are ever to occur among this class, they must come mainly through agencies devised for re-educating the brain in the line of former duties and activities.

LECTURE XIV.

ADOLESCENT INSANITY.

Two Epochs of Life—Adolescence and Senility—Ætiology—Heredity—Characteristics of Pubescence and Adolescence—Motor Activity—Evolution of Sexual Functions—Development of Brain Capacity—Reasons Why there Occur so Few Cases of Insanity at these Periods of Life—Causes Ordinarily Potent Not Operative—Physiological Reasons—Heredity Comes into Forceful Activity Later in Life in Most Forms of Disease—Symptoms—Exaltation or Depression, Both in a Modified Form—Little of Maniacal Excitement or of Mental Pain—Both of Short Duration, and Succeeded by a State of Hebetude or Apathy—Case Illustrating Tendency to Recurrence.

Adolescent insanity is that form of mental disorder which is connected more especially with the period of development, and is in this respect the antithesis of that connected with old age. The one occurs in connection with the evolution of both physical and mental capacities; the other with the period of involution.

Mental processes are more or less affected by even the daily modifications which occur in the brain, and more especially are they influenced by the more profound ones which occur at the two great epochs of life. These epochs, therefore, become more or less critical in the history of every individual. In old age the process of organization no longer keeps pace with that of involution, in consequence of a diminution of the vital energy of the system; but in the period of youth the ratio of progress in these

processes is reversed—evolution and organization more than keep pace with that of involution, and the system increases both physically and mentally. In all cases of normally organized and healthy persons these processes proceed in harmony the one with the other, and the system is developed in accordance with the law of its being; but if from any cause or causes the consonance of this mutual growth is disturbed, there result manifestations of derangement in all degrees, sometimes in the mental, and at others in the physical system, and not infrequently in both. Illustrations of the grosser forms of all these are observed in cases of scrofulous or tubercular disease occurring in childhood and youth, and in the different degrees of imbecility and idiocy. And when we consider the number of factors which enter into and influence this development of the system, how delicate is the adjustment and play of these upon one another, and upon the whole force of the system itself, it is by no means remarkable that these dependencies sometimes become deranged, thus producing disorder. Indeed, it is remarkable that they no oftener become so, especially during the pubescent period, when all the elements of the structure are in so unstable and changeful conditions; and were it not for the force of healthful inheritance and surrounding influences it would be far otherwise.

Ætiology.—On this point it may be stated that heredity is a more important factor and apparently exercises a more direct influence in the production of this form of insanity, than any other. Indeed, so generally is it developed in connection with or from this influence, that Dr. Clouston writes that he has never known a case in his large experience, in the history of which there could not be traced a hereditary taint or neurosis. The degree in which this

inheritance will affect the system and lead to derangement of healthy activities will depend not only on the conditions of life, that is, whether favorable or unfavorable, but also upon the counteracting healthy heredity from ancestors, and more especially from one healthy parent. This latter is, in the majority of cases, quite sufficient to offset the inherited possibilities of disease, so that individuals pass safely through the period of development; and most certainly will this be likely to prove true if such persons are surrounded by favorable conditions, and have the advantage to be derived from a definite and systematic course of physical and moral education. Hence we shall find that a majority of the cases of pubescent insanity arise in persons who inherit neurotic tendencies, and who are either overworked or underworked. Many of them are left too much to themselves, and have little or nothing to do in the way of labor and regularly imposed tasks; and are not required by the force of family discipline to learn obedience to the laws of home life, health, and activity. In such persons the inhibitory centres of the brain are the most sensitive and inefficient in the economy of activities, and require invigoration by all those external appliances which experience has proved to be of service.

In order, however, that it may be more apparent why the periods of pubescence and adolescence are those more likely to be invaded by some of the various forms of nervous disorder in those who inherit any of the neuroses, it may be desirable to refer to some of the more obvious characteristics which distinguish these periods of life.

Motor Activity.—One of these characteristics is the evolution of such forces of the nervous system as constantly seek expression in outward activities. All know from experience how difficult it is for young persons

to restrain this tendency, and that one of the keenest of delights is experienced in the motions of the various organs of the body as well as the brain. Games of almost all kinds, which require a considerable expenditure of nervous energy, are eagerly followed. Exhilaration, a large flow of good feeling, and a fuller measure of delight in existence, come to persons at this period of life who are able to regularly and judiciously, and many times even injudiciously, indulge such activities. Indeed, that young person who does not so seek to expend a considerable portion of the nervous energy of his system, is likely to be regarded as in an abnormal condition.

But this is not all, nor the most important consideration, nor, even the meaning, of the highest purpose of this tendency. This, doubtless, lies in the fact that these activities, and the consequent changes which result in the various tissues of the system, have a powerful influence in causing a more firm and stable condition in them. If it be a law, as is claimed by Mr. Herbert Spencer, that there exists a pretty constant relation between the size of the nervous system and its tendency to, or power of, motion, either in its simple or complex combinations, then it becomes apparent why motion seems to be so much more a necessity to childhood and adolescence than to later periods of life. The brain at this age sustains a larger proportion to the remainder of the system than ever afterward, and one of the most important problems of physiological education is how to secure the expenditure of this surplus force developed by it in such activities as will serve to make the system vigorous and healthy.

Another feature especially characterizing this period is the evolution of the sexual functions. It goes without saying that this physiological function exercises the most

powerful influence over the whole being from the time of its appearance forward, during thirty-five or forty years. Its manifestations mark a new era in life, and greatly change or modify those tendencies which have hitherto existed. Its normal development is generally attended with enlarged views and expectations; the individual vision is no longer limited to self and selfish amusements, but now extends to another world—that of sensation and love. Hitherto the society of the opposite sex has been either shunned or regarded with indifference, but now it becomes a delight and a requisite to happiness. The significance of family life becomes more apparent. Mere existence and its present enjoyment no longer bound the horizon of the mind, but it begins to look forward to the future, and question what is to be sought in it. Forethought and preparation for the duties and responsibilities of life largely supersede the passion for play which has hitherto exercised so strong an influence. Girls no longer care for dolls, which are now consigned to the limbo of forgotten things. With the enlargement of the system and the establishment of the catamenia, there exists a specially sensitive condition of the nervous system, which is often manifested by vague emotions and longing for indefinite and imperfectly understood wants; and not unfrequently physical likings and tastes change; persons and things become distasteful which formerly had been regarded with favor. The emotional centres are more active, and the whole nervous system more sensitive, which not infrequently leads to chorea, hysteria, or epilepsy. In fact, the evolution of the sexual functions profoundly affects the whole system, and taxes its energies more strongly, perhaps, than any other.

One more important change at this period requires especial attention, and that is the development of brain

capacity. The brain at the time of birth may be roughly estimated as having attained one-third of its full growth. It attains a second third at or before the age of fourteen years, and the last third about twenty-three (in some cases it may continue to increase some years longer). This last third of increase relates more than either of the others to the development of the central ganglia, the blood-vessels, the caudate cells, and the grey substance of the cortex. The optic thalami and the corpora striata, which are supposed to be centres for reinforcing and radiating nervous irritations or sensations to the nerve cells, and the efferent nerves, become larger and more efficient in arranging and coördinating these impressions. The higher centres toward which these radiations are transmitted also become more fully differentiated, and the caudate cells, which in childhood are not grown, now become fully developed, and their nervous filaments both enlarged and lengthened. In addition to this, or in consequence of it, larger measures of nerve influence are communicated through the vaso-motor portion of the system to blood-vessels, which increase in size. By this means more blood is provided for all the above-named portions of the brain, and its capacity of activities is correspondingly increased.

Passing now to the changes and development in the functions of the brain represented in mind, we find that they have proceeded *pari passu* with those of the brain itself. Processes of thought become stronger, impressions less evanescent; experiences become organized into memories, and memories into ideas, opinions, and purposes, so that the individual lives in the past, as well as the future. The several so-called faculties of mind, such as reason, judgment, and imagination, become more pronounced as the individual passes on through this period, so that it

becomes, *par excellence*, the harvest time for attainment. In short, it is the period during which the motor centres are enlarged and strengthened; the function of propagating the species is established, and the higher brain capacities which will characterize the future individual are all evolved, and begin to come toward maturity; and it is the evolution of all these which calls into activity the vital energy of the system to its fullest extent, thus rendering it most important to all, and critical in the lives of many.

If, then, pubescence and adolescence are periods which are so important, and in many cases critical, and because of their peculiarities there exists a larger danger than at other periods of life, the question at once arises why there are so few cases of insanity compared with other periods of life. Not much more than five per cent. of the admissions to the Retreat during the last ten years have been under twenty years of age, and possibly not all of these could be regarded as cases arising from either pubescence or adolescence. The statistics of many other institutions would present a much smaller per cent. of admission under twenty years of age. The answer to the question, however, I think is not far to seek.

In the first place, but few of the causes which ordinarily are potent in the production of insanity during other periods of life are operative in this. The larger cares and responsibilities which are incident to the conduct of business and in providing for other persons have not yet been assumed; there have never been protracted experiences of uncertainty as to the issue of important trusts and the care of property; the numberless effects of poverty have never been fully realized, nor have those which result from the protracted use of stimulants or

narcotics been experienced ; the sympathetic portion of the nervous system, which exercises such a profound influence on the mind in later life, has not become sufficiently developed to be greatly affected by disappointment and the loss of friends ; and such effects as do result soon pass away ; and, finally, the nerves and nerve cells of the brain have not become fully developed, and, unless in exceptional cases, have not become enervated by any protracted and severe strain. In fact, heredity is about the only factor in the causation of insanity which can exert much influence at this period of life, aside from the developmental processes above mentioned, and this influence, proceeding from the healthy parent, probably more often acts as a sufficient preventive than otherwise.

In the second place, there exist **physiological reasons** why so few persons are affected with this form of insanity. It is a law that, in the development of the system, the highest qualities of the mind, such as reason, imagination, and judgment, are the last to become fully organized in the system, and these are consequently the first to suffer impairment in insanity. The period at which these brain characters become fully established varies very considerably in different individuals, but as a rule persons attain to from sixteen to twenty years of age before any considerable progress is made in this physiological development ; and it is quite certain that those portions of the brain upon which these qualities of the mind depend continue to develop long after the latter age. While, therefore, they are in the process of development and are drawing to themselves the materials of the blood which are specially requisite for this purpose, and, furthermore, are free from those depressing influences which later in life affect them unfavorably, the integrity of their activities would not be likely to become

affected, except in so far as they may become so from inherited qualities. And even this influence would be less operative, while the brain yet remains in a partially developed condition, and its nerve cells and molecules are receiving supplies of nutritive material not only for their functional activities, but also for increase in growth, than it would be at later periods, when these physiological conditions are largely modified, and its cellular activities consist almost entirely in functional action only.

This is true not only in reference to the effect of the heredity of insanity, but also of that of rheumatism, tubercle, and cancer. The peculiar diathesis does not manifest itself in full force and activity, unless in exceptional cases, until some time after the system has become fully developed and exposed to such exciting causes as arise only during a mature age.

But in certain cases in which the inherited tendency to insanity is strong, or which have been most unfortunately circumstanced in reference to conditions which predispose to a healthy development, it manifests itself generally in a manner peculiar to the period of life. This peculiar manner I have already referred to, as consisting not so much in either very active excitement or depression, or in systematized delusions or protracted hallucinations of any of the special senses, as a derangement in the development of brain faculties. In other words, the evolution of motor activities and the sexual and intellectual capacities do not proceed with equal rapidity, but one or the other of the first two becomes exaggerated and over-active as compared with the latter.

The grand evolution of all the functions and capacities of the system, intellectual, moral, motor, and sexual, cer-

tainly causes one of the most critical periods which the system can pass through.

The inhibitory centres are those which usually, in consequence of inherited or acquired influence, do not keep pace in this stage of development. I think this view of the subject will be demonstrated by the character of those cases the symptoms of which are soon to be detailed.

Symptoms.—States of exaltation or depression may be present. The history of many of the cases which have come under my observation has indicated a period of more or less depression and morbid self-consciousness, with a tendency to brooding and silence, prior to the exhibition of marked excitement. Both states of exaltation and depression, however, during the adolescent period, have a character peculiar to themselves, and while they resemble the same mental conditions when occurring in the adult system, yet they are not identical. They generally fail to attain to the fully developed characteristics and intensity of the latter. While the degree of excitement may be considerable in some cases, yet it is of comparatively short duration. The patient talks or shouts in an excited manner, is nearly always very egotistical, with a tendency to exaggerated motor activity, but he is much more easily diverted and quieted than the adult. While he may appear to be depressed, sad, and shed tears, yet there is very little of real mental pain, such as exists in the melancholia of a more mature age. In many of the cases the explosion of excitement is sudden and the display of motor activity great, but these states tend soon to become changed, especially in the younger patients, and they become less boastful and confident, and frequently settle down into a state of partial

mental and physical hebetude, with a tendency to say little and sleep much.

There can exist little doubt that this difference depends upon the undeveloped condition of the higher brain centres and nerve cells, to which allusion has already been made. As these become more numerous, and new and larger areas of brain tissue become engaged in mental and motor activities, the mind becomes enlarged, individualized, and strengthened; and, consequently, when these elements become deranged, the product of disordered functions becomes correspondingly increased and intensified. The younger the patient, the less complicated are the mental disorders.

There are, in fact, very few cases of insanity in persons under sixteen or seventeen years of age, in either sex, as compared with the number occurring between the age of eighteen and twenty-three or twenty-four. This is the case, notwithstanding the fact that the reproductive period has become partially established prior to this age. The evolution of this function is certainly calculated to test very greatly the functional activity of the brain and the whole nervous system, and we must account for the fact that it is attended so rarely with insanity by bearing in mind that the higher brain centres, nerve cells, and tissues have not yet become so highly organized and sensitive as to become easily deranged.

The following cases will illustrate how comparatively short is the period of excitement, and also the tendency to mental lethargy and dullness which succeeds its subsidence when occurring before seventeen years:—

CASE I.—E. T., age seventeen, of light complexion, blue eyes, short in stature, and very boyish in his appearance; was admitted in 1881. It was reported that he had attended

school regularly, but did not learn easily, or have much interest in his studies ; still, he had been in general well behaved and obedient in conduct. A few months prior to his admission, he had become more than usually silent, was inclined to remain by himself, to shun the company of his brothers and sisters, and had lost all interest in his books, home-life, and society. He then began to take long walks by himself ; seemed in better spirits ; spoke of going into some business for himself, and was so unusual in his manner of conduct, as to excite the anxiety of his parents. He then left home suddenly, taking the train to M—, a city some two hundred miles distant. He was followed, and when found was in a confused and mildly excited state of mind, and unable to say where he had been or whom he had been with.

After his admission he continued in this same general condition several weeks, never much excited or depressed long at any one time, and apparently able to reply to questions only in monosyllables when depressed. He slept well at night, and almost every day passed several hours in a sleepy, semi-stupid condition, lying on a lounge in the hall. He could not be sufficiently roused to express interest in anything ; he never read books or newspapers, nor could he be induced to write at all to his father, who often wrote to him, and expressed the deepest interest in his welfare. He was treated with an abundance of exercise in the open air, indeed, was forced, much against his will, to take it, also with strychnia and phosphorus. After three months the mind began to show indications of more activity, and he made a most happy recovery without a relapse, returning home at the expiration of five months. He, however, remained at home only a little more than a year, when he was returned to the Retreat a second time,

having become excited, and left home as before. He again passed through a similar experience in the form of disease and treatment, though he remained about seven months the second time before going home. He was at home only about one year, when he again passed into his former condition, and he was brought back a third time. At the time of this writing he has been in the Retreat nearly fifteen months, never acutely excited long at a time, but frequently passing three and four hours of the day in a stupid condition on the lounge, and always sleeping enough at night. He is now making his third recovery, and will soon be ready to try the experiences of home-life again. During his third period of treatment, the state of hebetude has been more profound at times, and we have had much difficulty in preventing the habit of masturbation. To prevent this he has been kept in a condition of vesication for weeks at a time. It will be observed that each succeeding stay has been longer, the characteristics of the disease more marked, and a recovery seems less probable. There have also been more indications of dementia during his last attack than in either of the others, though the mental symptoms, so far as they relate to degrees of excitement and dullness, have been quite similar. Since convalescence has become established this third time his brain has been more free in its activities than after his former recoveries. He seems more cheerful, rides and walks with pleasure, joins in the dances, writes short, connected, and intelligent letters to his father, and appears to be interested in reading during some portion of every day.

The above case illustrates another peculiarity of this form of insanity, which is its **tendency to recurrence**. In the large majority of cases more than one attack occurs.

LECTURE XV.

ADOLESCENT INSANITY. (CONCLUDED.)

Case 2—As Age Advances the Tendency to a More Protracted Period of Excitement Increases—The Catamenia—Cases 3 and 4—Absence of Acute, Prolonged Excitement or Great Depression, also of Fixed Delusions and Hallucinations—Condition one of Partial Dementia—Cases Occurring at a More Advanced Age—Symptoms More Pronounced—In Females Absence or Irregularity of the Catamenia—Probability of Relapses—Importance of Avoiding a Too Early Removal from Asylum Life—Danger of Masturbation—Treatment—Importance of Restraints and Regularity of Life—Medication—Educational Influences—Occupation.

CASE 2.—R. R. (female), aged sixteen, but appears younger; a person of good habits; had scarlet fever several years ago and diphtheria four years since. About a year prior to admission she had been sent to school in a convent; was very ambitious, over studious, and much chagrined because she could not dress as finely as some of the other girls in the school. Before leaving home had been much indulged by her father, her mother having died when she was an infant. She had also received unusual attention from others, and became vain of her personal appearance. For some reason, probably inability to go on with her class, she left school and returned home after a short trial in study.

The development of insanity came on quite suddenly, after taking a long ride in the winter, soon after leaving

school. She became incoherent, hysterical, wildly talkative. This state passed away after a few days, and she became dull and inclined to wander about in an aimless manner, and endeavored to leave home, saying she wanted to get a situation in some family, thought there was not much the matter with her, and became so persistent and determined to leave home, threatening to commit suicide if she was not permitted to do so, that it became necessary to restrain her by mechanical means.

When admitted she was anæmic ; had a dry skin, a pale and slightly coated tongue, and feeble pulse. The memory and mental action were much impaired, the thoughts confused, and replies irrelevant. She had not menstruated for several months. She remained during several weeks in a listless and confused state of mind, with very little interest in what was going on around her ; was inclined to lie on the lounge in the hall during the larger part of the day, in a condition of semi-stupor ; when aroused would reply in a vague, abstracted manner, and talked sometimes incoherently about medicine, the convent, and staying all night. At other times would pay little attention to what was said to her ; kept her eyes closed, was dull of apprehension and apathetic, requiring to be led to the dining-room to take food, and even to have it placed in her mouth, and then often left it unmasticated. During one period she required to be dressed and undressed like any child. At the present time she has recovered a considerable degree of her mental activity ; has become interested in reading, converses with the physicians and others ; has written a letter to her father, requesting to be taken home. She takes food more freely, and is willing to take more physical exercise.

The immediate cause of the disorder in this case was, doubtless, over-study, anxiety, and chagrin that she was

not able to achieve as high a stand in her class and appear as well as her schoolmates. These experiences, acting upon a neurotic temperament at that period of life when the normal forces of the system were being largely called into requisition to fully establish the reproductive function, proved sufficient to cause derangement of the mental function.

In my experience this tendency to stupor has been present in cases occurring before sixteen or seventeen years of age, and in females before the catamenia had become fully established. The regular appearance of this function is one of the most auspicious indications of an approaching recovery. In case it is long deferred the stupor may become very profound, the circulation of the extremities cold, the breath very offensive, all the secretions very deficient, and for the time being patients have the symptoms of primary dementia.

In the cases already detailed, there existed enough excitement of the motor centres to lead to wandering (or an effort to do so) from home. While this condition continued there was little mental excitement, but a confused state of mind, attended with inability to comprehend or appreciate the true relation of the environment.

CASE 3.—J. K., age sixteen, and small for his age, weighing only ninety-two pounds, and with a scar on his forehead from the kick of a horse, was admitted in July, 188—. His father and mother are separated; his father has a violent temper and bad disposition. A few months previous to admission, he had become absent-minded; lost interest in all employment; showed a disposition to be ugly; on several occasions struck his mother and threatened to kill her. He could, however, conceal his vicious propensities when in the presence of strangers or persons

not living with him. When admitted he was depressed, and at times inclined to shed tears. He confessed that he had masturbated, and said he had a "bad disease." He did not sleep well, and was often out of bed in the night; refused his medicine, saying it was poison. He had an elongated prepuce, which was circumcised after considerable resistance.

At one time he was inclined to stand on the floor of the halls during long periods, and refused to sit down when requested, and in various other ways, such as refusing to take food until he was fed with a stomach tube, exhibited a disposition to be contrary. Afterward he became capricious, mischievous, and disorderly, and when required to take food would swear and cry and shout for a long time. He became destructive of books, plants, and furniture in the hall, and required to be vesicated on account of the habit of masturbation. During the month of June, 188-, there occurred a profuse discharge of pus from his left ear, which was attended with considerable pain and constitutional disturbance, and continued during several days. He remained in a decidedly improved condition after this for about two months, but then relapsed into his former condition. During the last year he has alternated between a condition of apathy and stupidity, in which he is very reserved and moody, never engaging in games or conversation, and replies to questions only by saying, "Don't know!" and a state in which he is mischievous and unruly, and inclined to annoy everybody with whom he comes in contact. During this time he has grown in stature considerably, but has not improved mentally. His mother visited him, but he would scarcely recognize her, and throughout the interview preserved an apathetic and stupid attitude. The

habit of masturbation, which he is inclined to practice, is a consequence, and not a cause, of his insanity.

CASE 4.—F. W. S., aged sixteen, son of a laborer, dark complexioned, and small in person, was admitted in 188—, with the statement that some three weeks previous he had wandered from home in a confused state of mind, and placed some ties upon the railroad track, with the purpose of wrecking trains. He was arrested, placed in jail, and on examination pronounced insane, his father stating that he had several times on former occasions left home in a confused condition, and wandered away a considerable distance, on one occasion being found some twenty-seven miles from home. When in jail he became somewhat excited and endeavored to escape from the room when any one entered. On admission he was much confused in answers to questions, slow of speech and mental action, and had an impaired memory, but no delusions so far as could be ascertained. His replies to questions were made willingly, but very slowly and with manifest effort; said he did not remember where he was born, and had no recollection of having placed the ties upon the railroad track; was inclined to be taciturn, and to remain by himself apart from the other patients. After a few days he became intolerant of authority and defiant when remonstrated with; was much inclined to annoy other patients and seemed to take pleasure in doing so; was quarrelsome and impudent in his bearing, and took on airs of much importance, treating the other patients with disdain and contempt. Three or four weeks later he became quiet and respectful, and assisted about the hall, and afterward was employed to some extent about the grounds outside, where other patients were employed, and when so occupied made his escape.

He was returned to the institution after an absence of three months, during which he led a very unsatisfactory mode of life; a part of the time he was with his father, and the remainder with an uncle, but nowhere able to conduct himself properly; but, on the contrary, was constantly getting into trouble with persons with whom he associated. He had a deep wound over the left eye, received while in a quarrel which grew out of his insolence. After his readmission he was very restless, irritable and complaining at times, and on other occasions swaggering, quarrelsome. These conditions of mild excitement, attended with unreasonable conduct and a disposition to annoy and quarrel with others, alternating with those in which he conducted himself in a respectful manner, have continued until the present time. He has now been for a longer period in a favorable state of mind than at any time since his admission.

It will be observed that in no one of the cases detailed has there existed a condition of acute mania or of acute melancholia; indeed, there has not been a symptom of much depression even, with one exception for a short time. During the progress of the cases there have been periods in which a measure of good feeling has existed, and a tendency toward mild excitement, also mental confusion with loss of memory, but in the case of none of the patients who have come under observation has this passed over into a fully developed condition of mania extending over any considerable period of time.

In none of the cases have fixed delusions or hallucinations of any of the special senses been present. Some of the patients have been unable to realize where they were, and evidently thought they were in some other place than a hospital. The memory has generally been weakened, and the action of the mental faculties largely impaired. It

was difficult to arouse the attention, and impossible to get the patients interested in reading, games, or, indeed, in anything until after convalescence had become fully established. Whatever excitement existed during the early stage of the attack soon subsided, and the patient passed into a stage of hebetude and partial dementia, though able to reply intelligently to questions when sufficiently aroused to understand them. This condition changed at times, in the males, into one of irritability, with a tendency to self-importance and quarrelsomeness, leading to blows; at other times a disposition to complain of neglect on imaginary grounds. The sexual centres of the brain became unduly excited and sensitive, which led to the practice of masturbation and some of its more immediate consequences.

The two cases now to be presented will illustrate the mental condition when occurring in older patients with more fully developed brain centres. It will be observed that in both the state of excitement was more marked, and of longer duration, and it was not succeeded by a condition of stupor.

CASE 5.—F. J. C., aged eighteen, has a high-tempered father, and a nervous, irritable mother. His knee is ankylosed, the result of abscesses which occurred when about eighteen months old. The disorder is said to have existed about two years; in this time he has had several periods during which he has been restless, obstreperous, and violent, and imagined that he was a dictator, and that his special mission was to see that the laws were not violated; was frequently at variance with his father, and others who sought to control him. When admitted there appeared to be a wasting of the muscles about the left hip, which was due, in part or wholly, to the weakness of the knee which is ankylosed. He was much elated and disposed

to talk about his mission as a detective, and especially that he was to see that the Sunday laws were well observed ; appeared to have no apprehension of his true condition, but claimed that his violent conduct toward his father was all his father's fault, and wished to know if he could soon return home. He was often boisterous at the table, and extravagant in his statements ; had a troublesome cough, for which medicine was given. A few days after his admission he became suspicious and thought his food was poisoned, and shortly afterward became more restless, walking about the hall the most of the day, very overbearing and insolent toward the attendants and others ; used profane language, and did not sleep well for a considerable period. There was at no time an extreme degree of excitement, but he remained more than usually talkative and at times became rambling and incoherent. He rapidly lost flesh and strength ; the cough increased, and some ulcers appeared on his legs. These disappeared after a few months, and the mind became less confused, though still very slow and dull ; he rarely referred to his delusions and became pleasant in his relations to the attendants, and made some effort to aid himself. Still, his mind has not cleared up ; he is restless at times, and at other times confused, and unable to apprehend and reply to remarks except in monosyllables. The secretions of the body are all as inactive as his mind, and he requires much attention and care.

CASE 6.—G. M., aged eighteen, was admitted to Retreat in 187—. She had once before been a patient in an institution for a few months. This time she came voluntarily with her sister, and appeared to realize that there was something the matter with her. She had recently become excited and restless and had walked three miles in the night, alone,

leaving the house at twelve o'clock, to see the doctor. Was thin in flesh; catamenia irregular. Had an aversion to members of her own family; had never attended school much, and had always been averse to discipline or study; always got on better among strangers. After her admission she conducted properly for the first few days, but before long became excitable, talkative, rolled on the floor in the hall, laughed in the chapel, and behaved in such a manner as to require removal. After a few days she became very mischievous; endeavored to light papers and bits of cloth in the gas jet, and generally annoyed others in almost all conceivable ways. In October she began to pull out her hair, generally doing it in the night, until there was quite a large spot entirely denuded; when expostulated with, said she wished to get rid of it. In conversation appeared to understand the bearing of what was said to her; replied quietly to all questions, but claimed that she did not know why she removed her clothing, pulled out her hair, and destroyed about everything she could get her hands on. In March she became more amiable and less destructive, and to encourage her was placed on one of the best halls, in a room the door of which was opposite one of the gas fixtures in the hall. The gas was usually left burning at this place, during the night, with a low flame. The second night at about ten o'clock, after all had retired, as she supposed, one of the attendants, who was near her room, heard a slight noise, and soon observed a long roll of paper projecting through the transom over the door of this patient's room. It appears she had taken a newspaper, and after tearing it into slips, had twisted them into a roll more than a yard in length, and was pushing it out to light it in the gas. Not long after this she began again to remove her clothing, and so persistently that she

was removed from the hall to another, and where she could pass out and into a large yard. She used to like to have her food, while here, in one of the summer houses, and was gratified in this respect by the attendant. The second day, while at dinner, she managed to climb over a fence some ten feet in height, and disappeared. Notice was given within a very few minutes, and search was made in all directions, but without avail. The next day (Sunday) a telephonic message was received from a neighboring town, inquiring if any one of our patients was missing. It appears that she had passed directly through the city, and had walked all the way up the railroad and through the town to the small house of a laborer, arriving there about sunset, and inquired if she could remain all night; was made welcome, and at once began to make herself useful by caring for a baby in the house. She carefully avoided saying anything to indicate where she had come from, and appeared to be very well; but the scanty amount of clothing she had on and her reticence led them to suspect that she might be from the Retreat. When called for, she stipulated certain conditions on which she would return, which were entirely reasonable, and at once acceded to. Within one day after her return she again began the round of excitement, destruction, denudation, and unnatural conduct. This continued for several weeks, when she rather suddenly began to improve, and at the end of a month returned home, where she has remained well since. She at no time gave indications of delusions, hallucinations, or dementia; her mind seemed to be remarkably active, easily excited, though the periods of excitement were not long protracted.

It will be observed that in the female patients there has existed an absence or irregularity of the catamenia, and in

two of the males a tendency toward the habit of masturbation. A similar statement could be made in regard to a majority of the cases of pubescent insanity which have been under my care. The question is suggested as to how far, if at all, the mental derangement is dependent upon the abnormal condition of the sexual system, or whether the latter is the result of the former? Probably in a large majority of cases the derangement of the sexual system exists as simply a concomitant, and not a cause, of the mental condition.

It may be admitted that the mental function in the case of females may become clouded and imperfect in its expression in consequence of a circulation of blood from which certain products of secondary metamorphosis have not been eliminated by the function of menstruation; and also that a disorder of the central nervous system may cause an insufficient nervous energy in the sexual system to perfectly establish the function of menstruation; but these must be regarded as merely attendant conditions, or expressions of the disease. The *fons et origo* exists in the abnormal evolution of the several great nerve centres at the most critical period of life by reason of inheritance or faulty education.

Allusion has already been made to the tendency toward relapses in adolescent insanity. There exists such a tendency during convalescence from mania and melancholia, and for a considerable period afterward, making it unadvisable to suddenly terminate asylum residence after the cessation of the acute symptoms; but this tendency is more decided during convalescence from adolescent insanity which has its basis in an inherited neurosis. In a brain so burdened the inhibitory centres appear to regain their stability of action much more slowly. The whole nervous

system is more sensitive to the effects of experiences of an unfavorable nature. The inhibitory centres are those which come into maturity of strength latest, and when they once become weakened and disordered in their activities the stamp of instability becomes greatly intensified and may continue for years.

Hence the danger of a too early removal from the asylum. The friends are only too ready to yield to the importunities of the patient as soon as he is able to realize that he is better and expresses a wish to go home. The frictions incident to every-day life outside are quite sure to exhaust the little store of inhibitory energy which has been acquired very soon, and a relapse occurs.

Such cases cannot be regarded as recoveries. The unstable condition of brain centres continues to exist and relapses may occur from two to three years before the brain becomes fully restored. Indeed, this habit of brain may become permanently established, as it does in the case of epilepsy, so that it rarely or never again attains a permanent state of equilibrium.

During these seasons of convalescence and while the cells of the cortex are still in a morbidly sensitive condition, there are two sexual activities which are very likely to act as exciting causes toward a relapse, even if they were not factors in the causation of the original attack. These are masturbation in the male and menstruation in the female. The occurrence of menstruation, which is usually absent during the acute stage, though a favorable indication of approaching recovery, yet necessarily entails a large drain for the time being upon the stock of nervous energy; but the practice of masturbation acts much more efficiently through its effects upon the nerve centres, rendering them unstable and easily excited. The blood also becomes

greatly impoverished through the occurrence of both these experiences and this reacts upon the brain centres, causing sudden and irregular liberations of energy.

The degree of mental excitement which may appear will depend largely upon the stage of recovery previously attained. Some patients will become talkative, boisterous, mischievous, and exhibit a tendency to injure those who may thwart their purposes; while others will become sullen, suspicious, morose, apathetic, and dull. It becomes impossible to predict from any present condition of mind which may exist what will be that of an hour or day hence. Such cases contribute largely to the number, who in after life have frequent admissions to asylums, or when not discharged are recorded as stationary.

It should be stated that cases of adolescent insanity which make favorable recoveries are those who constitute the larger portion of persons who experience attacks of insanity at the other great epochs of life, viz.: the climacteric and old age.

Treatment.—One of the first and most important measures in the treatment of pubescent insanity is removal from home and its associations to some institution. The moral effect of such a change is greater than in most other forms of insanity. It is the only means by which the patient's will may become supplemented by that of the physician's, to the end that a regular system of daily habits and experiences may be secured.

Again: Regularity and a considerable amount of daily exercise or employment, if practicable, out-of-doors, should be secured, unless there exist contrary indications in the physical condition. This should be extended to producing physical fatigue. Restriction of general physical activities, and exercise in the open air, and confinement to seden-

tary habits and employments at this period of life, have a tendency to awaken into activity any hitherto dormant tendency in the system toward any neurosis which may have been inherited. Such habits of life also tend to develop and bring into activity any tendency which may exist toward an excitement of the sexual organs, and the consequent habit of masturbation.

These measures will prove sufficient in the majority of cases to secure sleep without the use of medicines for this purpose, which should be avoided if possible.

In cases presenting an anæmic state, the system must be strengthened by the use of a sufficient amount of easily digested food used with regularity, tonic bitters, cod-liver oil, and some preparation of iron. These remedies will also be in order in those cases attended with menstrual deficiency or irregularities. Pills of iron and aloes may also be used at night as the patient approaches near to the monthly period, together with hot applications to the lower spine.

What I have to add further in relation to the treatment of pubescent insanity will relate to its prophylaxis. Indeed, this may be regarded as of the highest importance in relation to all children who inherit a predisposition to insanity or any of the neuroses, and relates to such a course of education, using this word in its broadest sense, as will tend to carry the child through this important period of physical and mental development with the least possible strain upon the nervous system.

In the first place, the education of such children should be individual rather than general. Whatever may be said as to the efficiency and desirableness of the system of public schools for educating children who have sound, vigorous constitutions, cannot be regarded as true in the case of

those whose inheritance is one of insanity. The primary object of all education should be to symmetrically develop all portions of the system, and thus to fit them for the most perfect exercise of their several functions. In this process no rule can be devised which will be applicable to all cases alike. There will be exceptions, and none of more importance than those of persons now under consideration. A sound arm or leg may be made more strong by such active and oftentimes vigorous exercise as would ruin a weak or unsound one, and the exercise of such activities would only serve to develop and bring to light the weakness of such organ if it exist. In the same manner the strain of the brain incident to the race for an education in the public schools, with thirty or forty other pupils in the same class, all of whom are endeavoring to understand and absorb a multitude of dry facts and constructive propositions, is almost sure to develop any latent tendency which may exist in the brain into something more than a tendency. Such a brain, therefore, requires special attention in its training, rather than such as is necessarily incident to a large public school.

Again, bearing in mind that in many of these cases the evolution of energy in the motor centres greatly exceeds that in the inhibitory centres, which leads to inordinate and aimless expenditures of nerve force, education should be directed toward training the hands and arms in the execution of particular and definite movements. For this purpose nothing is better than lessons in drawing and learning some handicraft. This may be confined at first to the drawing of simple lines, then of geometrical figures, and later may be advanced to the construction of small articles and regular work. In other words, the system of education should be industrial—a learning of how to do and make things, rather

than how to remember facts. Education should also relate chiefly to the phenomena of an external world, such as is presented in natural history and science, and can be observed, rather than learned from books. The powers of observation rather than those of retention require special instruction and exercise.

After all, there is much danger that in many of these cases there will be little systematic education, either general, individual, or industrial, except such as unfavorable experiences afford. The child fails to learn as other children learn; he dislikes and fights against the restriction and discipline sought to be enforced, and the parent is inclined—nay, too often is forced—to give up the idea of an education in school, and the child is left to run riot. It, therefore, becomes of the first importance that the will of the child be supplemented by that of others until the age of eighteen or twenty years, and that the psychical centres be educated, as far as they can be educated at all, mainly through the discipline of the motor centres, in the regular performance of some form of light manual labor.

LECTURE XVI.

SENILE INSANITY.

Old Age—Characteristics of—Evolution No Longer Keeps Pace with Involution—Ætiology—Physiological and Pathological Changes in Brain and Nervous System—Diminution of Functional Activity—Vascular Changes—Nerve-cells—Mental Symptoms—Impairment of Perception—Excitement—Loss of Memory—Illusions—Depression—Physical Symptoms—Three Varieties—Senile Dementia—Senile Mania—Senile Melancholia—Cases Illustrative—Suicidal Tendencies—Treatment—Should Such Cases be Removed to an Asylum?—Testamentary Capacity.

Old Age.—Age is a relative matter and not a question merely of the number of years one may have lived. While some persons become old at fifty or sixty, others are active and vigorous at sixty-five or seventy. The periods of youth and middle age are associated in our minds with activity and enterprise; old age with quiet and rest; the one with anticipation, expectancy, confidence; the other with retrospection, doubt, and a tendency to believe that the former days were far better than the present. In middle life the mind displays its largest activity, greatest endurance, and soundest judgment. Yet there exist all degrees of activity and endurance even in this period. Some people seem to have been born old, and never to become young. Their movements, both mental and physical, are moderate, and they go through life at a snail's pace. The cell batteries connected with motor and mental activities generate force lazily, and soon become exhausted. Race,

heredity, and environment have much influence in this, as in all other respects, in determining characteristics; the slow Turk and Asiatic repeat themselves and grow old slowly. But in the midst of the modern requirements of living, necessity often proves a severe master, and drives with both whip and spur, while the length of time occupied in expending the unit of vital force depends upon the rate of speed kept up. The child sent on the street at five or six years of age, to hawk about matches, pins, or newspapers until ten o'clock at night, day after day, half fed, and poorly clad, will pretty surely become old while yet young, unless he dies too soon for this to take place.

Old age means that the process of **evolution no longer keeps pace with the opposite process of involution.** There exists a period in life when the two counterbalance each other, and the system moves on, maintaining its own, and capable of large expenditures of nervous energy in many directions. In old age this adjustment no longer continues; but, on the contrary, there exists a diminution of all the forces of the system, and it gravitates earthward. Generally the brain is the last organ in the system to participate in this downward course. As in youth it is the last to mature and become strong, and its highest faculties are the latest in development, so in the period of decline, it generally exhibits failure later than other organs, except from the effects of adventitious disease. When, however, the process of degeneration begins, those faculties which are the highest and last to develop are generally the first to fail. Imagination, and its outcome, expectancy, in a large degree cease to exist, and the individual tends toward a life in the retrospect and introspect, and he again lives over the years long since past.

Spontaneity in inception and purpose no longer exists.

Habits which are the outgrowth of the observation and experiences of past life determine the course of action, more than influences which arise from present experiences. The emotions and aspirations toward something higher and larger in the relations of life, which may have produced a determining motive toward courses of conduct, are now no longer present.

Not unfrequently the individual himself is the last to discover and appreciate his own weakness and the oncoming of decay. He still clings to the belief that he can endure and execute as in the past, and any suggestions to the contrary encounter incredulity and quick opposition. Self-confidence, irritability, and eccentricities of all kinds tend to increase as ability diminishes. The brain becomes less capable of protracted application and sooner gives evidence of exhaustion. It requires longer and more frequent periods of repose and sleep. The individual inclines to hold with a strong grasp to the traditions and associations of the past, and when he has been largely absorbed in the accumulation of property, not infrequently degenerates into the true miser, and runs his little round of daily activity in counting over his much or little of the results of life's work. Such seems to be the natural order in the course of old age, and may exist without the individual being regarded as either insane or technically demented. But a stage arrives in the lives of many when they move on into conditions further advanced, and which must be regarded as resulting from true pathological changes in the brain.

Ætiology.—At first thought we might conclude that insanity is less likely to occur in old age than during the younger period of life, and this is doubtless true in relation to some forms of disease. What may be termed the

moral causes of insanity are probably much less potent than in middle life. The brain and the whole nervous system are much less sensitive, and consequently are less affected by the annoyances and irritation arising from the friction of every-day experiences; impressions of all kinds are less enduring, and persons have generally learned from the outcome of past experiences to accept disappointment as largely the lot of everybody. There no longer exists much doubt as to the course of conduct to be pursued, opinions to hold, or beliefs to be entertained. Quarrels and differences of opinion, instead of causing regrets, questionings, and uncertainties in the mind, only tend to confirm and settle it in the course to be followed out. Even the loss of children and companions by death is accepted with less of mental suffering than when occurring in middle life. So far, therefore, as such experiences ordinarily act as causes of insanity, they are greatly lessened in old age; but certain changes in the brain itself may, and not infrequently do occur, which so far affect its activity as to render the individual incapable of properly conducting his own affairs.

It will be observed that the changes in the mind already referred to result largely from a **diminution of functional activity**, such as would ordinarily ensue from a lessening of the vital force of the system in old age. Those now to be referred to indicate not only failure, or diminution of activity, but irregularity and imperfection. These pathological changes relate chiefly to the **blood-vessels, nerve cells, and interstitial tissue of the cortex of the brain**. As the vital energy of the system diminishes, this is manifested in the capillary system of the blood-vessels of the grey matter, primarily in a thinning and consequent distention of their coats. In consequence of the occurrence of this

condition, the bioplastic material, which in a state of health is received into and becomes organized as a constituent portion of the vessels, passes into them and becomes irregularly deposited, but is not absorbed and organized. On the contrary, it dies, that is, becomes resolved into the elements of fat and fibrin, and acts as a source of irritation, and consequent thickening of the coats of the vessels in various localities. This is usually termed atheromatous degeneration of the vessels, and serves greatly to impede those physiological activities which are constantly going on in a condition of health. As a result of this irregular thickening, the caliber of the vessels becomes lessened, and consequently the volume of blood passing through them, and there must result an impoverishment of those parts which have before been supplied.

The nerve cells, more particularly the large pyramidal cells, are especially sensitive to this change. Their functional activity, depending, as it does, upon the blood-supply, becomes lessened when this is diminished, and ultimately the constitution of the cells themselves becomes changed. They are smaller as well as fewer in number; change in form, becoming less angular and more round, and the length of inter-nerve space becomes increased. Marked changes in the smaller oval cells are less pronounced. While there occurs a shrinking of the whole volume of the brain, it is more pronounced in the frontal and parietal regions than in the occipital lobe.

Referring again to the **capillary vessels**, we find that in consequence of the degeneration which takes place in their coats localized softenings and minute ruptures occur, with slight extravasations of the blood or serum, which act as irritants and excitants in the motor areas of the brain. These occur not only in the cortex, but also in

the ganglia of the optic thalami and the corpora striata. They vary in size from minute points to the sixteenth of an inch in diameter, and in proportion to their size and locality exert pressure and irritation upon the contiguous parts. They, however, occasion less disturbance of both mental and motor action, and their effects sooner pass off, than would result at earlier periods of life ; probably there is less sensitiveness of the brain itself in old age. Not unfrequently small thrombi are formed on and remain at the thickened portion of the vessels, which totally occlude them, and cause a degeneration or necrosis of those elements beyond, which before had been supplied. As a result of these changes in the vascular system of the brain, which are more numerous in the white than in the grey substance, its volume becomes much lessened. The dura mater is often thickened. The arachnoid and pia mater are also thickened, though the latter is not adherent to the cortex, as in general paresis. These thickenings and the effusion between the membranes occupy the otherwise vacant space and tend to compensate, at least in part, for the shrinkage of the brain.

It should be said that we are not yet able to demonstrate that these changes in the brain are the direct cause of attacks of pronounced insanity in the senile brain. That they arise and progress *pari passu* with the ordinary mental decay of old age there can be no doubt ; nor do I think there exists any reasonable doubt that the disturbances of brain tissues which are incident to their occurrence constitute the proximate cause of attacks of insanity. But I am not aware that we yet have definite and absolute proof of this. We still require observations relating to the changes in the elements of brain tissues which pertain to the decay of old age and to the insanities incident to it.

The brain, however, is not alone in this process of atrophy. The whole body and all its organs sympathize with it. The face becomes less full, and the body less round and more stooping and angular; the eyes become sunken; the skin dry and hard; the scalp bald and thin; the soft parts about the lower portion of the face and neck partially relaxed, and words are no longer articulated with the distinctness of younger years. In short, the whole physical system and the involution of its visceral functions and movements keep pace together on the downward journey.

Mental Symptoms.—In consequence of the above-mentioned pathological changes in the vessels and tissues of the brain, the blood is not returned to the lungs so freely and regularly for purposes of oxygenation, and the effete products are not so thoroughly removed; the molecular changes, which are the concomitants of all nervous action, become impeded. Hence, what was a consequence of imperfect action becomes a cause of greater imperfection of activity, which is manifested in the mind, in some cases, by **impairment of perception** and the various processes of thought. The mind takes cognizance of the external world and the various interests and affairs of society with less accuracy and readiness; the power of comparing and rejecting, or combining ideas, so as to form opinions and motives of action, becomes lessened, and, in consequence, the faculty we call judgment is impaired; the person is likely to make mistakes, especially in reference to property and business. The delicacy of relations toward others is not so fully realized and appreciated, and hence the increase of friction arising from the daily associations with the younger members of family life.

Again, the pathological changes above referred to in certain areas of the brain sometimes tend to produce an

increase of function during short periods in other limited sections. This frequently leads to exhilarated feelings, with an overweening degree of confidence, and the individual is perfectly sure that he was never more able to understand and prosecute new or large enterprises in his life; he is confident he understands how he can easily double his fortune, conduct successfully the affairs of a new family, or wend his way without difficulty through the tangled web of political life, if he can only succeed in securing an opportunity of doing so. This exalted state of feeling and excessive confidence is generally one of ominous import, and indicates the near approach of more pronounced disorder. In case the person is widowed, he not unfrequently proposes to some person young enough to be his granddaughter, or possibly to the servant girl in his own house, and against the protest of his children and friends he persists in marrying her, and often disinheriting his own children in favor of his new alliance. In other cases the sexual tendency becomes so pronounced that the patient disregards all forms of decency, and gives the lie to the experience of a life of the highest character and respect, before his family realize that he is insane.

The memory generally fails first, and more especially in relation to daily and hourly experiences and transactions. The individual cannot tell the day of the week or the month of the year. He does not remember the names of his own children, or those of his friends and neighbors; whether he has paid a bill, or been paid; and later on in the progress of the disease, he fails to recognize the members of his family; loses his way on the street; does not know his own house when he sees it; frequently insists that he is not in his own home and demands to be permitted to go there; becomes suspicious of those about

him; thinks they are strangers, and are trying to rob and plunder him; has illusions of sight, and thinks persons whom he sees are others whom he saw years before, and insists upon calling them by some names heard and remembered long ago; frequently has perverted sensations, as of cold when the weather is hot; and will insist upon having a fire made in July, or in putting on quantities of thick clothing when everybody is sweltering with the heat, and when the weather is cold in going out without extra protection.

The susceptibility of the physical basis of recent memories is greatly impaired, and the mind has a very limited influence over it, while the memories of former years still remain quite distinct, and unconsciously arise into recollection. The memory of heat or cold presenting itself in consciousness, the patient, without ability to compare his past experience with the present by association of ideas, acts automatically, or nearly so, under the stimulus of the remembered sensation.

The failure in memory, the perverted sensations, imperfect perceptions and illusions, render such persons in an institution, or anywhere else, exceedingly troublesome, so that they require constant care and supervision. They are all the while getting into other persons' rooms and failing to find their own; they mistake the fireplace for a urinal, and a lavatory for a water-closet; they soil their clothes and beds; become obstinate and apparently resentful of all that is tried to be done for them; will insist upon getting out of bed, especially at night, pull the clothes and mattress off, and pile everything up in a corner of the room; move the bed against the door; pull down the curtain of the window, if there is any to pull down; shout and scream that robbers are about; that they are

being killed ; and when one comes to their aid, will strike and kick and resist to the very last every effort to assist them to a better understanding and experience of their surroundings, under the impression that they are defending themselves.

Physical Conditions.—The physical conditions as to strength and agility change greatly from time to time, and appear to have some correspondence to the excited or depressed states of the mind. The amount of physical energy and endurance which some old men, who appear to be just ready to topple over into the grave to-day, may exhibit next week, while under the influence of marked changes which will occur in the brain and the resultant impressions and delusions, is very remarkable. They rarely remember anything about it after the period of excitement, or the force of the hallucinations which gave rise to it, has passed away. At other times they sit for hours wherever they are placed, or lie in bed saying nothing and with difficulty understanding anything said to them. Sometimes dim memories seem to flit across the mental horizon at the sound of some name or voice which has excited into vibration, or molecular activity, some channel of thought or nerve cell which has long been dormant or become half disintegrated.

Recently one of our patients, H. F., whose son, who resides in Washington, was visiting him, turned suddenly and asked him where he was from ; he replied, "Why, father, I am just from Washington." "Washington—Washington !" repeated the father. "It seems to me that I once had a son there in some important position ; wonder if you knew him ?" and continued gazing vacantly upon the wall of the room before him.

Senile insanity presents a considerable variety in its

manifestations in different cases, and in the same case in different stages. While many exhibit a condition bordering upon mental vacuity (**senile dementia**) month after month, and seem to be incapable of being roused or excited in any degree or by any cause, others exhibit more or less depression, restlessness, and opposition at times, more especially after an apoplectic attack; while others still have periods of acute excitement attended with delusions and hallucinations. **Senile mania** runs a more or less limited course, and then the patient may recover, or pass into a condition presenting such symptoms as attend other cases of the first or second class. The following cases will serve as illustrations, more or less fully, of the three forms which senile insanity may present:—

The first case, S. F., is past ninety years of age, and is dressed every morning and night like any little child, and taken from and put into bed. She sits from morning to night in her chair (except as she is led from one room to another by the attendant), holding a little doll in her arms, and every now and then turning upon it an affectionate and motherly look (she was never married). When addressed she looks up and sometimes smiles, especially when her doll is praised, but never utters a sentence, or speaks more than one or two words, sometimes saying, "yes," or "no." She has neither delusions, hallucinations, excitement, nor depression, though there may be illusions of sight which lead to her conduct in relation to the doll, and rarely gives any evidence of the power of recalling memories.

The hair has never lessened on her head, and has grown quite abundant about her lips and chin, and she is never without a vacant look or stare, except when she pets, in her own peculiar way, her little doll. She has had during the past year slight apoplectic attacks as often as once in

two or three weeks. During these attacks she lies with eyes sometimes closed, and at others open, breathing with a slight blowing movement of the cheeks and lips. The pulse is generally increased in frequency and volume, and one side or the other is partially paralyzed. The effects usually pass off after two or three days (sometimes more quickly), and she again resumes the round of her daily life in her chair and with her doll. This rests upon her arm at night in her sleep, arranged as a mother would arrange her nursing child. Evidently this doll has touched the profoundest, and, indeed, the only, chord of her nature which is capable of being touched or of responding to anything. The apoplectic attacks are evidently caused by the rupture of some minute vessel, and the extravasation of a slight quantity of either serum or blood; and if we could examine the brain structure, we should find, doubtless, many of the remains of these minute hemorrhages throughout the cortex, some of which have become partially absorbed, and others sacculated and remaining as sources of more or less irritation. The irritation would be much greater in a younger and more sensitive brain, and remain during a longer period. It is probable, also, that these seizures may occur in severe cases of senile degeneration without demonstrable anatomical lesions. The apoplectic attacks continued and increased in frequency and severity until she died in one of them, in the ninety-third year of her age.

Similar convulsive attacks occur in about ten per cent. of all cases of senile insanity.

The next case, C. A., presents another phase of the disease, which differs very materially from the one just mentioned, and which will illustrate the character of maniacal attacks in a senile brain. He is eighty-two years of

age, has been a man of active habits, and during many years the captain of a coasting vessel. He has exhibited indications of more or less mental decay for several years past, but has lived with his family until recently, when he became so irritable and unreasonable in his demands and general conduct, exhibiting a disposition to strike any one who opposed or neglected to comply with his demands, that his friends were obliged to send him from home. He does not realize at the present time where he is, but refers to this place as the one in which he resides when at home. He walks with much difficulty, and is obliged to be assisted to and from his room, and is partially aphasic. A few nights since he experienced an apoplectic attack, and remained unconscious during two days; he then began to regain his consciousness and to move about on the bed. Two days later he succeeded in getting up, pulled his mattress on the floor, and moved his bedstead against the door. He has been careless and dirty in the extreme the most of the time before and since the fit; resists about everything the attendant tries to do for him, exhibiting much more physical strength than he appears to have; he is very profane and noisy, especially at night, and causes more annoyance, and requires more attention, than all the other patients on the hall. When free from excitement he appears feeble and as if he would not live a week, but when excited, the strength of his movements and the vigor of his voice indicate anything but exhaustion. He does not remember anything from one hour to another, and within a few minutes after dinner cannot tell whether he has had it or not. At times he will speak of things that occurred many years ago, apparently with an accurate recollection. Not long since he began to talk about his will, and said that by its provisions he had left all his property to his present wife and her

children, but had left none to the children of a former wife. Having got off so much with tolerable clearness, he became confused in thought and utterance and unintelligible, began to shed tears, and soon to mutter about something else, and since then has never referred to the subject, or clearly to any other. The disposal of his property in this manner had evidently caused him some anxiety when he made his will, and now for a moment the subject came again into consciousness, but soon vanished in the confusion and weakness of his mental activity.

There is another case, F. H., on the same hall as T. A., whose condition is somewhat different. During the larger portion of the time he will sit in his chair from morning to night, except as he is taken to his room or to the dining table, saying little or nothing. But during the two years since his admission to the Retreat there have been several occasions during which he has been quite excited. At these times his leading delusion is that some one is being killed; he then shouts at the windows and begs to be taken home; is thoroughly confused in his mental operations, and is constantly appropriating articles belonging to other patients.

This excited state continues only two or three days, when he relapses again into his state of dementia and mental inactivity. These periods of excitement probably arise from changes in the circulation in certain areas of the cortex or the central ganglia, or from the irritation which results from pathological changes which are frequently taking place in these portions of the brain; and as the senile brain soon becomes tolerant of the changed conditions if they are not too great, the irritation becomes less, and the outward expression of it in the form of increased motor activity, restlessness, and shouting also subsides.

The fourth case had an attack of melancholia with delu-

sions, which passed through a more or less definite course with an ending in recovery, but with conditions usually present in senile decay.

C. A. A., aged sixty-eight, was admitted with the statement that he had been failing in strength and activity for some years past, but had never been able to realize it; has thought that he could do just as much as in former years, and became greatly annoyed by any insinuations to the contrary; has persisted in trying to dictate how the men on the farm should do the work, and in showing them how to do it himself. A few months ago he lost his self-confidence, began to fear that his property was all gone, and that he was to go to the poorhouse; that persons were trying to rob him; threatened to kill his wife, and recently wished himself dead, and made one or two attempts at suicide, which led to his being brought to the Retreat. He is now restless and uneasy, walks the hall, often sheds tears, and wishes to be returned home; is very suspicious; has hallucinations of hearing; says the poorhouse is the place for him; that he can never pay for being here, etc., etc.

Under the influence of the treatment and regularity of the Retreat life, he began to improve; his despondency became less; the hallucinations ceased; he took an abundance of nourishing food, and in a few months returned home quite happy, but still with the enfeebled mind of an old man. This case, so widely different from the cases of S. T. and C. A., is simply one in which there came on an attack of acute melancholia in an old brain. While there existed an enfeebled and imperfect mental condition both before and subsequently to the attack, yet there was not such a state as is implied by the term senile dementia, which is the sequel of irreparable loss of nerve energy or more pronounced pathological changes in the brain with atrophy.

The fifth case to be mentioned is in the Retreat at the present time of writing. It illustrates a senile form of melancholia, connected with brain atrophy, from which patients do not recover.

He has been under observation six years, and during that time has passed more than five years in a condition of mental and physical depression. He is now seventy-four years of age, of light, sandy complexion, thin in flesh, unstable in gait, somewhat anæmic, with feeble action of the heart. He experienced one or more periods of depression several years ago, but was never placed in an institution for treatment.

During his residence at the Retreat, he has never, on any occasion, been especially exhilarated or happy, but, on the contrary, all the while self-accusatory, and reproaching himself for past delinquencies, for which he says he has never been forgiven, and for which he fears he will be eternally punished. The secretions are rather scanty, and he rarely takes any satisfaction in the use of food, which he takes only as a duty.

He has often told me he would like to die, and the suicidal intent is evidently frequently present, but he has not the courage to execute it, and says he is really afraid to die, but would do so if he dared. Sometimes he confidentially asks me if I am willing he should longer remain at the Retreat, and when asked what reason he has for supposing that I do not desire him to do so, replies that he has been such a hypocrite and sham all his life that he cannot believe that I wish to see him about.

At the present time the mind acts very slowly, and there is little if any ability to associate ideas together so as to form a definite opinion about any subject. He can refer with some accuracy to events which occurred years ago,

but has little capacity for registering the events of yesterday. The action of the mind is largely automatic, and he lacks the ability to reason about any plan or question which may be suggested to him for decision.

There is no history of alcoholism, but, on the contrary, one of great regularity as to habits of life. He is becoming more and more insensible to passing events, which seem to become blended with former experiences, which he sometimes refers to as if they had only just now occurred. The process of involution is steadily and slowly going forward, and he will, if he lives long enough, ultimately become as feeble in mind and body as the first case described.

During the last two years he has had epileptiform seizures of a mild character, three or four times a year. He generally remains in bed, however, only a few days, and appears less despondent after recovering from the immediate effects of an attack than before. While he has had short periods of being almost free from depression, yet he has never been entirely so, and never confident that he could with safety to himself leave the Retreat.

The suicidal tendency is present at times in a large proportion of such cases.

It will be observed from the study of the senile cases in almost any institution, of which those above outlined may be regarded as specimens, that the symptoms of senile insanity present a large diversity. They may prove to be those of dementia which is the result of slow and long-continued degenerative changes in the system, with consequent diminution or loss of nerve energy, in which case the patient finally dies in a state of fatuity.

Or, again, the symptoms may consist in simple excitement, increased motor activity, loquacity, and self-confidence, all of which may subside after a few weeks; or, on

the other hand, may become greatly exaggerated, until the patient is noisy, incoherent, and rambling in thought and speech, and unable to sleep or remain quiet for any length of time. Such patients often refuse to take food and are likely to die of exhaustion unless the acuteness of the symptoms becomes less pronounced. All these mental states may subside and the patient recover a considerable degree of mental soundness, or he may pass into a state of confirmed senile dementia.

Finally, the symptoms may from the first assume a depressive or melancholic type, and the patient, so far as he is fully conscious, becomes absorbed in reflections which are of a painful nature, and often has impulsive tendencies. At a later stage the mind may pass into a condition of reverie or be lost in a state of torpidity with little indication of volition, or of attempts to recall the past, or to initiate any course of action or thought, unless it may be one of self-injury or destruction. Not unfrequently the general condition of melancholia is attended with short periods of maniacal excitement and destructive tendencies.

The treatment, or rather the course to be adopted in the management of some cases of senile insanity, may become one of much delicacy. If the person is one who is likely to be benefited or cured by treatment in a Hospital for the insane, the duty of an early removal, as in cases of other forms of insanity, is evident, but in the majority of these cases there exists little prospect of recovery. The question, therefore, resolves itself into one of care; and it is one often presenting a good deal of embarrassment. It is no light thing to remove an old man or woman from the scenes and surroundings of a home, where long years have been spent, and which, in many cases, is the result of years of labor, to any public institution, and from the presence of

children and neighbors, to that of entire strangers. It is certainly not too much to urge that great patience and forbearance on the part of relatives be used toward this class of persons, and that every available resource be tried before removal. This was done in the case of F. H., referred to above, and a man was placed in charge of him for several months prior to his coming to the Retreat; but he finally became so obstinate, and so much disposed to resist and strike every one who in any way opposed him, that his family became fearful lest he should actually do injury to those having the care of him. The course to be followed in such cases becomes evident.

Again, there are many cases in which the friends have not the requisite means to provide for necessary attention at home, however much they may desire to do so. Under such circumstances the well-being and interests of the other members of the family must be consulted as well as those of the individual, and no greater kindness or good for the greater number can be done than by a removal to a public institution. But whether at home or in an asylum, the principal desideratum is **skillful management and care**. Medicine may be of temporary use in allaying excitement, if it exists, as in other forms of insanity, but a sunny, warm room in winter, with a bath-room attached or near at hand, together with a simple, and abundant dietary, comprise the requisites for proper care.

Testamentary Capacity.—In one respect, senile insanity is the most important of any of the genera which we have to study; that is its relation to the disposition of estates. More wills, which have been executed after persons have exhibited indications of a diminution of mental capacity, have been contested for this reason than for any other. In some lay minds, any mental impairment means

insanity, and when individual interests are at stake, it is remarkable how large, or how small, according as these interests may become affected, these early indications of impairment may become.

It is important in this connection to bear in mind the distinction already made evident between the **normality** of old age and the different forms of **senile insanity**. It will not be safe to assume that because one has become infirm in body, and has given indications of diminished vigor of mind, or because he has exhibited senile eccentricities, and is quite determined to have his own way in spite of the desires of his friends and family, has periods of more or less irritability, and has not as good ability in business transactions as when younger; nor, again, because he has become retrospective in his mental tendencies, and thinks that the former times were better than the present, repeats the incidents and stories of his experience in other days, while he forgets more recent ones,—therefore he is incompetent to intelligently and properly dispose of his own property.

On the other hand, only when the mind has become so far impaired, that the person is unable to properly understand the relation he sustains toward his heirs at law, or is influenced in his feelings toward them, or others, by delusions, or unjust suspicions and insistent ideas; or when he becomes incapacitated to understand the immediate effects of his will upon the members of his family, or their respective claims upon him, or his own duties and responsibilities toward them; or, again, has been subject to undue or improper influences to such an extent as to will away his property from his legal heirs to others whose claims are not valid, or otherwise make wrong disposition of it,—will the Court be likely to decide that the person has not sufficient testamentary capacity.

LECTURE XVII.

CLIMACTERIC INSANITY.

Ætiology—The Epochs of Life—Relation to the Period of Involution—Dependent Upon Physical Changes in the System—Diminution of Nerve Energy—Indifference—Loss of Appetite—Absence of Good Feeling—Profound Change in the Female System—Change in the Channels of Mental Activities and Sympathies—Changes in the Processes of Elimination—The Cessation of the Catamenia—Heredity—Symptoms—Melancholia—Case 1—Conditions of Depression—Abnormal Sensations—Loss of Flesh—Recovery—Case 2—Mother Insane—Very Suicidal—Convalescence—Recovery After Four Years—Delusions—Hallucinations—Physical Symptoms Present—Cases 3 and 4—Differentiated from Melancholia at After Periods of Life—Prognosis—Sixty Per Cent. of Cases in the Retreat Recover—Length of Time—Permanency of Recovery will Depend Largely upon the Antecedents of the Case—Treatment.

Ætiology.—Having studied now those insanities which are connected with the two great epochs of life—pubescence and senility—we next proceed to the study of that connected with another epoch of life, which is of scarcely less importance, viz.,—the Climacteric. These three forms have been grouped together, because they alike arise in connection with the great physiological epochs of life; the genus now to be studied has been arranged as the final one, for the purpose of more clearly and definitely differentiating the main characters and symptoms of those already examined, and also for showing in what distinctive manner they resemble and differ from one another. One of these insanities has been shown to be connected

with, and in some measure to arise from, the processes of physical and mental functions, and the other from those changes which occur in connection with the processes of involution, or decay. The one now under consideration is proximately caused by changes in physiological activities which occur **only** during that epoch which is termed the **grand climacteric**, and therefore differs in some degree, in its character and symptoms, from each of the other forms. While it is far removed from the period of evolution, and is in no degree connected with it, it does have a close relation to that of involution; that is, it, so far as it depends upon predisposing causes aside from heredity, arises from those physiological changes which occur in a portion of the nervous system at the period which immediately precedes or coincides with the commencement of physical involution. It, therefore, becomes necessary for us to enquire in what those changes consist.

One of the more important, indeed, perhaps the most important of all, because the others arise indirectly from it, is the diminution of nerve energy in the system. Nearly or quite all persons pass through a period at some time between the ages of forty-five and sixty-five during which they are sensible of a decided change in their feelings, as well as in their bodily health. The condition is one attended not so much with indications of actual disease, though it may be so, as it is with a feeling of weariness, indifference, or malaise. Persons do not experience the same pleasure in the business pursuits of life which they formerly had. They are unable to endure physical or mental exertion as well as formerly; business cares annoy more easily, and change or periods of rest are more often required if they are able to have them, and especially desired whether they can have them or not. The appetite

is not so keen, and food is not relished as before, and in consequence some diminution of weight in the body occurs; there is less strength and fullness of pulse, and the blood passes to the brain with less force, which doubtless accounts for the diminution of good feelings and a slight tendency to look upon the dark side, if there exists any such to look upon. The period during which an increase of either physical or mental activity takes place has long since passed, and now the period during which it has held its own and exercised its largest capacity in the sphere of its activity has also passed. It has arrived upon the border-land of descent, and can no longer pass through the same amount of exertion; or if it does, more marked and longer continued periods of exhaustion supervene, while a reaction comes more slowly. These and similar experiences occur to most persons between the ages of forty-five and sixty-five, especially those who have been engaged in such occupations and avocations as require an excessive expenditure of nerve energy. Not unfrequently these abnormal experiences and changes in the system pass over into something of more grave import, and the individual may have an attack of **physical disease**, a pneumonia, a fever, an attack of rheumatism, or a disease of the kidneys, some of the more general effects of which may remain for a long time after the more acute symptoms have passed away.

In the female, in addition to these changes in sensations and capacity for physical effort, the catamenia cease, and the tendencies as well as the capacity of the system to reproduce itself by conception and gestation and to nourish its offspring, which has for thirty or thirty-five years exercised so profound an influence, also ceases. The expenditure of nerve energy which hitherto has been

necessary for these physiological processes is no longer so, and must therefore cease, or be directed into other channels. These great physiological functions have their representative areas of cerebral tissue, and a corresponding change must occur in these also. The evolution and manifestation of the thought, solicitude, and motherly anxiety which has been present during so long a period, and exercised so profound an influence in the care of helpless infancy and childhood, no longer find occasions for existence, and must seek other objects or persons on which to expend themselves.

The elimination from the system of the products of secondary metamorphosis, which has hitherto taken place through the uterus, must hereafter occur through other organs and tissues of the body. The large supplies of blood which have in some degree passed through the pelvic organs at all times, and at the monthly period in a largely increased amount, must now find new or enlarged channels of circulation, until a less quantity is formed in the system. Hence, in nearly all females we find that sensations of "pressure and fullness" about the brain, which are frequently attended with abnormal sounds, and more or less of discomfort or positive suffering, are often complained of.

In consequence of these important physiological changes in the working economy of the female system, the climacteric becomes a **more important epoch** in the female than in the male, and more often leads to derangement of the physical and mental health. But it is essential to bear in mind that these physiological changes in the sexual system of the female do not stand in the relation of a *single cause* to such subsequent mental disease as may arise, unless in exceptional cases. They merely enter into

and form a portion of the aggregate of all the changes in the system which occur at this period of life. Menstruation is almost always disturbed during an attack of mania or melancholia, at any period of life, and its normal appearance is one of the indications of a return to mental health, without reference to the age of the patient. Its disappearance in the large majority of cases stands in the relation of an effect and not of a cause. For both sexes, however, the climacteric must be regarded as a kind of halting place for the readjustment of the machinery of the different organs of the system to a modified course of functional activities, and in consequence of a diminution of nervous energy in conjunction with the initiation of a revolution of physical functions, according to inherent tendencies.

The period during which many of the exciting causes of insanity which are potent at an early age are operative has now passed. This, however, is not the case as to the **abuse of alcohol**. Indeed, the physiological effects of this upon the brain, when it has been long used, are more likely to exhibit themselves at this period, when the system has become less able to ward them off.

Heredity—as in insanity occurring at the other great epochs of life—exercises a marked influence, and largely determines the degree of physical and mental disturbance which will exist in every individual case.

The grand climacteric usually occurs in females between the ages of forty and fifty-five, and in males between fifty and sixty-five. The time varies considerably in different individuals, according to race, inheritance, and the habits and experiences of previous life.

Symptoms.—The general tendencies of the physiological activities of the system as above described are in one direc-

tion, and we are, therefore, prepared to expect a condition of gloom and depression which leads on finally into one of melancholia. The leading symptom is **melancholia** with many of the attendant conditions which are present in that form of disease at other periods, and is attended by delusions of impending injury or ruin. The patient loses confidence in his ability to discharge the duties to which he has long been accustomed; his interest in them has ceased, and the necessity of such employment is repugnant; he soon becomes unable to exercise his ordinary judgment in consequence of the distorted medium through which his perceptions are received; he becomes irritable, impatient of opposition; has suspicions of his business associates, and even the members of his own family; is restless, desiring frequent change, or in some cases the opposite, preferring to be at home and alone. He exhibits little or none of the energy and activity which has formerly characterized his habits of life. Thought becomes introspective, and he is constantly accusing himself of having neglected to do his duty in some particular direction, more often religious-wise, if he has professed to be a religious person. The following case will illustrate some of these symptoms.

CASE I.—C. F. H., aged sixty-two, has a father living, and his mother was insane during many years. Habits of life have always been regular, and he has conducted large business enterprises successfully during the past thirty years. He has a dark, sallow complexion, and looks thin and anxious. His mother died insane, and one of his uncles was once in an asylum. He has been for months slowly running down and becoming more nervous and irritable, and at times emotional; has often shed tears. Within a short time he has become greatly depressed; thinks his character is ruined and that he is lost; that he

has been a hypocrite ; that he has never lived up to his religious professions. Though he can talk connectedly and reasonably, and still retains sufficient inhibitory power to keep quiet for a few minutes, yet he is very sure that he will not be able to do so long, and that we shall soon be obliged to put him among those unable to conduct with propriety. He can talk about very little except himself, and if an attempt is made to converse on other topics, such as business or politics, in which he has always been interested, after a few remarks he turns back to his own wretched condition and will not talk of anything else. He takes about one-half or two-thirds the usual amount of food, but insists that he has no appetite and that it does him no good. He complains of an unpleasant sensation about the region of the stomach, which does not amount to actual pain, but is expressed more nearly by saying it is **an abnormal sensation** or absence of feeling. He does not sleep well at any time, but always wakes after two or three hours, from the occurrence of some very disagreeable dream. He then walks about his room or remains awake until he takes a dose of medicine for the purpose of producing sleep. He feels worse in the morning and is less able to control himself enough to go to the table or to converse long with any one than he is later in the day. Not long since, one morning, he handed me his watch and the money he had in his pocket, saying he could not take care of them ; but in the afternoon he felt so much better that he asked for them again. He has lost from twenty to thirty pounds of flesh ; his face looks pinched and haggard, especially in the morning ; the mucous surface of the mouth tends to dryness ; the delicacy of taste is impaired and he claims that one article of food tastes about as well as another ; the bowels are costive, not moving oftener than once in three or four days ; the food

is not well assimilated; the skin darker than normal and dry; the action of the heart is both feebler and slower and his general activities are much diminished. He requires to be urged to either walk or ride, except as he walks backward and forward in his room, during the mornings, bewailing some fancied neglect or sin of former days. The tendency of all thought is subjective, and he has the peculiarity which is frequently present in this variety of insanity, of complaining of an abnormal sensation about the bowels and stomach. He has so much distrust of himself and of his ability to protect his own interests that he is constantly expressing anxiety lest I will not permit him to remain at the Retreat.

This case terminated in a good recovery. After a residence of nearly one year under care, and the free use of hypophosphates and opium, and food taken several times a day, he so far recovered as to be able to return to his own home, where he has remained most of the time, slowly improving mentally and gaining in good feeling, flesh, and strength. Several years have now passed and he remains in excellent health.

It is generally the case in this form of insanity that persons present a simple state of melancholia; they have but little confidence in their ability to take care of themselves, and are willing, and in many cases desirous, to be taken care of, and even to enter an asylum. The zest and relish of life is gone. If they have suicidal impulses they generally speak of them, and desire to be protected from carrying them into execution, though not always.

A gentleman aged fifty-nine, of neurotic temperament, anæmic and thin in flesh, recently called to see me in reference to his condition, and after stating his mental sufferings, anxieties, and fears lest he had been a hypocrite all

his life, said that he was often overwhelmed by finding himself meditating suicide, and his fear was that he should, during some one of his periods of sleeplessness and despair, so far lose consciousness as to do the deed. Suicidal impulses in this form of insanity are, however, less frequently carried into execution than in insanity at other periods of life, though attempts are sometimes made.

CASE 2.—A male aged fifty-eight, of great energy and force of character; for more than twenty years has been engaged in large business enterprises in different parts of the country, which required much travel by rail, and which of late gave him great anxiety, thus tasking both physical and mental endurance. He has an inheritance of insanity from his mother, and his friends have observed a gradual failure in his physical and mental activities for several months before he finally quit his business and shut himself up in his own house, refusing to see any one except his wife. He was finally brought to the Retreat, in consequence of repeated threats of suicide, where he remained nearly four years before becoming well enough to be willing to go home. In addition to many of the general mental and physical conditions described as pertaining to the last case mentioned, he has been suicidal some of the time, in an extreme degree. On one occasion while walking on the street with his attendant and passing a meat market, he suddenly darted into the building, and seizing a cleaver, attempted to kill himself. At another time he ran from his attendant and attempted to throw himself into the river, but was overtaken before he could do so. A portion of the time he has appeared to be in a condition of abject terror, and would remain in bed, if permitted to do so, day and night, with the bedclothes over his head, refusing to see any one; he refused to take food and did not do so,

except on compulsion, during several weeks at a time. Peripheral sensations and groups of sensations became obscure to such an extent, during several months, that he never referred to them, and entirely neglected his person; but, on the other hand, the visceral sensations became greatly exaggerated, and he was frequently referring to uneasy feelings in the region of stomach and duodenum; he protested that his food did him no good, and that it was worse than useless to take it; at other times he thought it was poisoned.

Convalescence in this case was very slow. It became established after about two years, but his distrust of himself and doubt as to his recovery continued for a year longer. It was with much difficulty that I could induce him to go with his attendant for short excursions into the neighboring country, and later to some of the towns to remain over night; but he did so from time to time, and by degrees his distrust became less and confidence greater. His relish for food returned; the uneasy sensations about the stomach disappeared; the dominant idea of apprehension which had so long ruled faded away; the peripheral sensations became normal; the secretions more active, and he was induced to return to his home, though much against his own inclination. There was no relapse, but, on the contrary, a continual improvement, until after five years from the first indications of the disease he became interested in his business, and though he has never resumed the full responsibility he formerly had, he is daily engaged in it, and is as cheerful and happy as during any former period of his life.

In other forms of insanity, even when there exists much depression, patients are not only unwilling to leave home, but very confident that there is no need of their doing so;

while patients suffering from this form freely assent to be taken anywhere, they distrust themselves, and at the same time generally have such an appreciation of their condition, and such apprehension as to greater impending evil soon to overtake them, that they prefer to be placed under the care of others.

Delusions of a more or less permanent character are present in a considerable per cent. of cases. They generally refer to the individual himself, and take the form of some impending catastrophe, which is soon to overtake him ; patients believe that they have committed the unpardonable sin, and in consequence will no longer indulge a hope of future life. They accuse themselves of duties neglected, of crimes committed, of which there has never existed the slightest evidence. These delusions doubtless arise from disturbances of the sensorial centres, and become pronounced from the constant introspective character of the thought process. They often exercise so profound an impression on the mind as to prevent sleep or to disturb it by horrid dreams.

Patients frequently have the delusion that the food they use is poisoned and does not digest, or that it remains in the stomach or bowels as a source of irritation, and that it is consequently worse than useless to take it. Hallucinations of hearing are more frequent than those of the other senses, and the patient hears voices of condemnation assigning him or her to endless punishment or the fires of hell. Hallucinations of the other senses are less frequent than in melancholia at other periods of life.

In connection with the above change in the mental functions, there occur others of the physical system. The patient loses flesh ; the appetite becomes less ; the relish for food falls off ; and the mucous surfaces become less

moist, when food is taken, or, if it is not taken, the patient complains of uneasy sensations about the stomach and bowels, sensations which are not actually painful, but not normal, and which seem to be on the border-land of pain. The bowels are costive, and do not move except from the effects of medicine, and the secretions in general are deficient; the skin becomes dry and harsh; the face is pinched and wears a haggard expression; the motor centres become excited at times, and the patient seeks relief in change of position or in walking about his room.

CASE 3.—A woman, aged fifty-five, had ceased menstruation some four or five years ago, and had been the larger portion of her life in excellent health. There is no known heredity of insanity or other neurosis; is the mother of four children, one of whom is deformed. One of her daughters died nearly two years ago, after an illness of some years, of consumption, and during all this time she was under the immediate care of her mother. During several months the mother was with her night and day, and toward the end was much broken of her rest. After the end, a reaction in the shape of mental depression came on; she could not be induced to visit friends, or even to leave the house.

This is the story in many of these cases of climacteric insanity. The person has been subject to a protracted experience of over-anxiety and physical or mental exertion just at that period of life when the system is on the border land of decline, and requires, as never before, all its resources to sustain itself. Necessity, or the force of family ties, or pride in sustaining a business reputation, lend an inspiration toward the highest efforts the system can make for the accomplishment of what has appeared to be so important and necessary at the time. At other periods of life rest and change would have restored the system, but at

this time there is not enough of vital activity and nervous energy to do this until after months, and in some cases years, of comparative inaction.

This patient became depressed, and was continually blaming and accusing herself of having been derelict of duty; she had the delusion that she was an incumbrance to her husband and unworthy of her children and many friends; she had also exhibited such suicidal tendencies that she was not permitted to sleep in a room alone. At times since her admission she will make an effort to busy herself about some light work when urged to do so; while at other times she remains for days unable to concentrate her mind upon any occupation, but still able to be about the hall and careful as to dress and personal appearance. She has lost flesh; the skin is dry, the bowels costive, and all secretions scanty. She has the same uneasy sensations about the stomach and dislike of food that many patients of this class experience. She says very little, and it is not easy to ascertain how much she is influenced by dominant ideas, but we have no reason to suppose that she has hallucinations. She remains during the day, at times several weeks in succession, in a chair or on the lounge, repeating in a low tone of voice a wish that God would "kill her," and has never given indications of improvement longer than a few days at a time.

CASE 4.—I here introduce another case as illustrating the prodromatous stage of this form of disease—a condition which frequently does not pass into one of insanity, and during the continuance of which patients do not usually reach insane asylums.

E. V., a person who has been engaged in very large business enterprises, and has also been very successful in them, came to consult me in 1885. He said he had not

had a good night's sleep for many months, had abandoned business, and left home; was staying in the country where he could take exercise by walking, and where he would be sure not to meet his business friends or any of his relations except his wife, who was with him. Though worth several hundred thousand dollars and formerly very liberal and public spirited, he now felt that he was poor and in the way to rapidly become more so; indeed, he could now scarcely afford to pay the physician's fee. He shrunk from seeing his old business acquaintances and from all responsibility; could not sleep except at intervals during the night, and when awake was mentally engaged in going over his past mistakes. After one of these awakenings, almost the first thought would be in connection with some one of these mistakes on which he had before reflected, and it affected him with a mental shock which he felt radiated from the brain to the region of the heart, causing actual pain there for a considerable period. This dominant idea then would hold rule in his course of thought during what seemed to him a long time, and he could not change it until the brain became partially exhausted, and then it gradually became more indistinct, and he would again sleep. When he again awoke, an idea in relation to another subject would flash into existence, and its influence radiate painfully to all parts of his system; he would then pass through another similar experience. These occurrences rendered his nights very tedious and dreadful; they were repeated every night for several months, and he fully realized their morbid character. He had lost appetite and flesh, and was dreading the occurrence of some pronounced physical illness. His energy and courage were gone, and with them his ability to face the realities of life.

The use of opium, strychnia, and phosphorus, several months of travel, with the incidental changes of scene, and association with persons with whom he had never before had any personal or business relations, greatly changed his physical and mental health, and he became able to see and enjoy the society of former friends and the duties pertaining to a business life.

The above case is one of a class which will come under the professional observation of general practitioners of medicine and call for treatment more frequently than those patients who have passed over into a more pronounced mental disturbance. Many of them will recover without much medicine, simply by the experience of a thorough change and a relief from the routine of business life to which they have been long subjected. This can be effected more fully by travel, visits to new scenes, and residence of a few months in a climate unlike the one to which they have been accustomed. Such a change brings them into new associations, and inevitably tends to lead the course of mental activities into different channels.

In reviewing the symptoms and general conditions pertaining to the above cases, we are at once struck with the resemblance they sustain to those which usually exist in melancholia when occurring at other periods of life. Many writers have described them under the general term of melancholia, and yet, on a more careful clinical study, I think there will be found good reason for classing them as pertaining to a special variety of insanity. It is true that there are mental and physical symptoms, some of which exist in other varieties, and this is equally true in other insanities, such as general paralysis, alcoholic and senile insanity, and yet, as in other special forms of disease, there

are found certain conditions more or less peculiar to them, so in this there appears to be enough which is peculiar to it to warrant its assignment to a special genus.

In the first place, it develops from and is the result of changes in the physiological activities of the system which occur at the climacteric and which do not occur at earlier periods, and the general symptoms are determined by these changes. In ordinary melancholia, whatever changes occur in the general physical system are mainly subsequent to and proceed from the condition of the brain.

In climacteric insanity the physical changes of the whole system, and especially the sexual, are the direct cause of the mental conditions, while in ordinary melancholia the physical conditions generally proceed from and are caused by it.

Again, in climacteric insanity the patient more generally realizes the failure of his physical system, and is only too deeply impressed by the fact that his nervous energy has left him. His condition is one of weakness and failure; from which he forecasts greater physical debility and other evils in the future; whereas in the ordinary variety of melancholia all of the disorder is referred to the brain, and little is said or realized in reference to bodily changes and conditions.

Again, in this variety, there very often exists a super-sensitive condition of that portion of the brain at or near the origin of the pneumogastric nerve, and impressions received are often radiated to the epigastric region, and also to the heart, with such force as to be realized by the patient and cause much discomfort. Dominant ideas arising from these impressions, such as that food does no good, that it remains in the stomach or bowels as a source of irritation, that it is poison, etc. etc., are more common than in simple

melancholia ; and when food is refused it is rather in consequence of such dominant impressions, than because there is no appetite, or that it is not wanted. The feeling of depression is so fully realized as often to lead the patient to desire to be under the protection of an institution rather than with his own family, and when convalescing, and so far on the road to health as to be able to return home, there is little interest in the society of wife or family. The sexual instinct, which has during so many years exercised so profound an influence in determining the course of activities, is now nil ; and not unfrequently the other sex is shunned or treated with entire indifference.

The relative proportion of cases occurring in the two sexes, in the Retreat during the last fifteen years, is of females to males about as 2 to 1 ; or, more accurately, as 57 to 26.

Prognosis.—The statistics of the Retreat during the last fifteen years indicate that recoveries from attacks of acute climacteric insanity are as frequent as from other forms of disease. More than sixty per cent of such cases have made recoveries. This is a little higher per cent. of recoveries than appears in the experience of either Dr. Clouston, Dr. Merson, or Dr. Lewis. The recovery rate of these authors are respectively 57, 59.5, and 48 per cent. It is, however, doubtless true that the patients coming under treatment in the Retreat have been of a class in which, from the character of former experiences, there would exist a larger probability of recovery than would be true of persons in the humbler walks of life. Very few of the cases have had an experience in the abuse of alcohol or of great physical labor and of unfavorable climatic conditions, few have had physical injuries of any kind, and, therefore, the system was in a more favorable condition for recovery than would

have existed in persons whose lives have been passed in physical labor and the incident exposures. The heredity of the patient as to longevity and physical health will also prove an important factor in the prognosis.

Recoveries in even the mildest cases of climacteric insanity rarely occur sooner than three months, and the large majority continue between one or two years. The fact that the patient has passed one year or even two without recovery should not lead to an unfavorable prognosis, unless there exist indications of physical disease of a serious character. The length of time during which the physiological changes incident to this period, and which are then proximate causes of the disorder, may take place will vary much according to inheritance and past experiences, and unless there should occur some form of physical disease to complicate the expectancy, we may anticipate a recovery in some patients even after two years.

The question may be asked, do such patients remain in good mental health, or does there exist a greater danger of another attack than exists after recovery from other forms of insanity? The experience at the Retreat indicates a negative reply to the latter question. It should, however, be said that this expectancy will depend largely upon the antecedents of the patient. If the habits of life have been regular, and the patient has not been addicted to excesses of any kind, and is free from physical disease, and especially if there exists a capital of mental resources, with which to engage in occupations congenial to the former mode of life, together with those anticipations which arise in connection with family, children, and property, we may with reason anticipate a period of several years of mental health. The younger the patient, other conditions being the same, the greater the probability of a recovery. When the system

has passed fifty-five or sixty years of age, there exists a rapidly diminishing capacity for overcoming the conditions of disease, especially if the experiences of past life have been of an unfavorable character or the patient has indulged in the abuse of alcohol in any of its forms.

Treatment in a large number of these cases must be of a stimulant and tonic character ; a large amount of time spent in the open air ; gentle exercise ; an abundance of nourishing food in the form of soups, beef-tea, eggs, and milk (in some cases with brandy) ; patients should never be allowed to go long without food, and if necessary it must be administered ; opium, cod-liver oil, iron, strychnia, quinine, and phosphorus. In my experience opium is remarkably well borne in this form of insanity, and is certainly of great value in alleviating the suffering and diminishing mental activity. It should be used in the form suggested when recommending it in melancholia. It should be given in doses of from twenty to sixty minims three times a day. I have never known the opium habit to become established from its use after this method and for this purpose, even during several weeks, and as the patient becomes stronger, it can be gradually reduced in quantity until it is entirely omitted with little or no inconvenience. Its use is sometimes followed by the most favorable results, though I am unable to predict beforehand in what cases it would be likely to do so. Sleep may be secured by exercise in the open air, and, if necessary, the use of sulfonal, chloralamid or chloral, combined with the bromide of sodium or ammonium.

LECTURE XVIII.

INSANITY OF THE PUERPERAL PERIOD.

I. INSANITY OF PREGNANCY.

Importance of—Insanity of Pregnancy—Ætiology—Intimate Relation between the Brain, the Stomach, and Sexual Organs—Craving for Particular Articles of Food while in the Pregnant State—Heredity—Tables of Cases in the Connecticut Hospital and the Retreat—First Pregnancies—Symptoms—Puerperal Insanity Proper—More Frequent in First Labors between Thirty and Forty Years of Age—Frequency of in Scotland—Character of Blood in Puerperal Insanity—Symptoms, Primary and Secondary—Hallucinations—Homicidal and Suicidal Tendencies—Convalescence—Age—Table of Thirty-nine Cases in Reference to Recoveries, Ages, and Time under Treatment—Cases.

The general practitioner has professional care of women during periods of pregnancy, childbirth, and lactation. He assumes the responsibility of ministering to the discomforts which are incident to the first period, the perils that attend the second, and such derangements of the system as may arise during the third. It may not be too much to claim that, while in the majority of women these periods pass without serious results to either mother or child, yet certainly two of them are attended by such conditions of discomfort and suffering, with many mothers, as to render the care and skill of the physician even more acceptable than do many other ailments for which he is called to prescribe. But no one of these many disordered conditions, whether surgical or medical, is more serious and important than that of

insanity. In most cases its advent is unlooked for; in many its symptoms appear unannounced beforehand, and suddenly in the majority of cases. They are acute, positive, and unmistakable, and move forward in the development of their character so rapidly as to arouse the most apathetic husband, brother, or sister into intense anxiety and alarm.

The prodromous stage of most other forms of insanity is more prolonged. The symptoms develop slowly. The relations and friends are slow to perceive the initial and early changes in the mental states, and generally still more so to acknowledge them when suspected. The physician, therefore, is not early consulted and rarely sees his patient until weeks or months have passed and he is far on in the perilous journey. Not so in the puerperal case; time is rarely lost by delay, and his resources, both medical and moral, receive a loud and early summons. The general practitioner, therefore, comes into more intimate relations to the early period of puerperal insanity than with that of any other, and in consequence is regarded by his friends as having a larger measure of responsibility.

While the term puerperal is applied to the state incident to parturition, yet as this latter is necessarily connected with and presupposes both gestation and subsequent lactation, it will be for our advantage to study together the mental disorders which may exist in connection with the three periods. While the symptoms of these periods tend to merge gradually into each other, and it is doubtless true that no sharply defined line can be drawn between them, yet they have some differences in both character and ætiology which it is worth while to observe.

INSANITY OF PREGNANCY.

Etiology.—Physicians are often reminded by professional experiences of the intimate sympathy which exists between the brain and the viscera and of their interdependence in the discharge of their ordinary functions. One of the most common examples of this sympathy relates to the stomach. Continued acute pain in either the brain or the stomach very soon modifies the functional activity of the other organ. This intimate sympathy, however, exists between the different viscera themselves, and the physician is often called to give counsel and, so far as he may be able, relief to pregnant women suffering from this cause. Nausea when arising from simple and direct causes produces a most profoundly depressing effect, and this is much increased when it arises from the irritation of a growing pregnant uterus and from the changed currents of blood which it requires in consequence of its increase of volume. And when these functional changes are in operation not only for a few hours, but during days and weeks, it is readily perceived how great the depression may become in some sensitively organized women.

There are, however, many women who, though not seriously affected with nausea and vomiting, yet, as the gravid uterus becomes larger from month to month, and begins to rise out of the pelvis, affecting the neighboring organs, suffer much mentally from these reflex influences. According to the observation of Dr. Savage more mental disturbance is likely to occur when the offspring is male than when it is female; and he says that this coincides with the popular idea on this matter. Many women rarely or never feel in their normal condition, and often have a craving for some particular article of diet, and unless they can have it

the general impression, which has no foundation in either reason or fact, is that there will result some unfavorable effect upon the child *in utero*. This craving appears to be similar to that of the dipsomaniac at times, and becomes about as uncontrollable. It is certainly impossible to satisfy its extraordinary demands.

In other cases the nerve centres become somewhat **irritable** and **sensitive**, doubtless from these same changed currents of blood supply, and the subjects are fretful and unable to view their surroundings and experiences in a hopeful way. They are depressed and spend hours in anticipating some form of trouble which will arise at the time of the coming confinement, or before then. The experience is altogether unknown, and in the depressed state of the nervous system the mind conjures up and pictures all forms of danger as the time for confinement approaches.

The **sexual antipathy** toward the husband which not unfrequently exists during pregnancy in many women may lead them to imagine that their husbands do not love and sympathize with them as they should. Some careless word or sentence spoken in merriment may be interpreted as an evidence that their friends do not longer care for them, especially if they have failed to visit them as often as formerly. They are confident that other women have never suffered as they are doing, and experience many imperfectly defined apprehensions of impending danger. These abnormal changes may become so great as to implicate the judgment and cause most remarkable likes and dislikes and violent caprices. They especially dislike their husbands and will have little or nothing to do with them, and can rarely speak civilly to them. I was invited to visit such a case several years since. The woman had actually left her

husband and gone to her mother, declaring that she would no longer live with him, though she exhibited no other definite indications of insanity.

This and much more of a similar character, indicating how greatly the emotional system is often affected from the influence of a gravid uterus, may occur with females during their first and sometimes in succeeding pregnancies, and yet the mind not become so much affected that the subject is regarded as wholly irresponsible. Indeed, we must bear in mind the fact that no such experiences ought to result from the conditions of pregnancy; that the prime physiological purpose of the uterus is that of child-bearing; and that if women had never lived in the conditions of civilization, or disregarded the laws of their physical nature, there would occur no greater irritation from the pregnant state than is the case with the females of other animals.

These disturbances of the emotional system during the period of pregnancy, however, are of special importance in two respects. In the first place, when existing in an exaggerated degree, they may be regarded as harbingers, or rather as danger signals, which may warn the physician of the coming of more serious ones, either during the later period of pregnancy or during the periods which are subsequent to confinement. They may almost insensibly merge into the morbid mental states incidental to the puerperal or lactational periods, especially the latter. In the second place, they present states of mind which are on the border line, if any such exists, between sanity and insanity. They indicate, as almost no others do, how imperceptibly the one state merges into the other, and also how quickly the one state may change for the other. The morbid mental state of to-day may be changed for one of comparative composure and "sweet reasonableness" to-

morning. The depression or emotional excitement of the morning may give place to hopeful expectation in the evening.

In those cases of pregnancy, therefore, in which the nerve centres become so profoundly affected that insanity results, it becomes necessary to introduce another element of ætiology, *i.e.*, that of heredity, or a predisposition. When the nervous system is so burdened, or is very sensitively or delicately poised, the irritation arising from such physiological processes may then prove sufficient to cause serious derangement of the mind. When such is the case the disorder generally assumes the form of melancholia. The table on opposite page, which includes the cases of the insanity of pregnancy that have been admitted to the Retreat since 1845, indicates how influential is the factor of predisposition both in the history and termination.

Insanity is said to occur more often during the first pregnancy than in subsequent ones, and in females who either have not been married at all, or have married late in life. Its importance then is increased, as its effects relate to two lives instead of one, and are likely to arise in subsequent pregnancies or parturitions. Such cases are of special importance to general practitioners, as friends hesitate to place them in institutions; and, indeed, very few institutions have the requisite accommodations for their proper care. There can exist no doubt that many cases of insanity during pregnancy are cared for at home for this reason and because of the large measure of sympathy and anxiety which could not be aroused in other forms of the disorder.

INSANITY OF PREGNANCY.—RETREAT.

AGE.	NO. OF PREGNANCY.	SYMPTOMS.	HEREDITY.	RESULT.	SUBSEQUENT HISTORY.
28	1st.	Melancholia. Agitans.	Not stated.	Stationary.	None.
26	1st.	Melancholia. Anæmia.	Father insane.	Recovered.	None.
32	1st.	Melancholia. Ill-health. Vomiting.	Mother insane.	Stationary.	Removed when found to be pregnant.
41	3d.	Melancholia.	Not stated.	Improved.	Had had several other puerperal attacks.
44	3d.	Depressed.	Mother insane.	Recovered.	Had one previous attack. Suppressed menses exciting cause.
31	1st.	Melancholia.	Father insane.	Recovered.	Had had one miscarriage. Ill health.
33	4th.	Melancholia.	Not stated.	Improved.	Admitted twice subsequently. Had prolapsus uteri.
22	1st.	Melancholia.	Mother and sister had had puerperal insanity.	Stationary.	No subsequent history.
28	4th.	Mania.	Not stated.	Improved.	No subsequent history.
36	8th.	Mania. Delusions.	Not stated.	Recovered in three and one-half months, in sixth month of pregnancy.	No subsequent history.
34	4th.	Melancholia.	Not stated.	Stationary, after four months' treatment.	

CASES OF INSANITY OF PREGNANCY IN CONNECTICUT
HOSPITAL FOR INSANE.*

AGE.	NO. OF PREVIOUS ATTACKS OF PUERPERAL INSANITY.	FORM OF DISEASE.	RESULT.	REMARKS.
36	I	Melancholia. Delusions.	Recovered in 6 weeks.	
38	I	Mania. Delusions.	Depressed.	Miscarriage.
35	I	Mania.	Recovered in 2 months.	Mother insane.
29	3	Mania.	Recovered in 11 months.	
22	I	Maniacal.	Recovered in 6 months.	Had four subsequent attacks.
26	None.	Maniacal. Homicidal.	Improved in 12 months.	Readmitted after two years.
28	None.	Melancholia. Suicidal.	Stationary after 3 months' treat- ment.	
46	None.	Mania.	Died from acci- dent after 3 years.	

Symptoms.—These are nearly always of a depressive character. They appear to develop from the primary states of emotional excitement, suspicion, and irritability, to which allusion has already been made. Persons not only become restless and irritable, but unable to control these states. They are sleepless, suspicious, and imagine

* Furnished by Dr. James Olmsted, Superintendent.

that their husbands are visiting other women ; have suspicions that their food is poisoned and refuse to take it ; are careless of dress and personal appearance, and become apathetic.

Dr. J. Batty Tuke says that "in no form of insanity is the **suicidal tendency** so well marked. Thirteen patients out of twenty-eight have either attempted or meditated suicide. In some the attempts were most determined—a loathing of life and the most intense desire to get rid of it being the actuating motives." At times the excitement and irritability become so great as to render them dangerous to those having the care of them ; this generally arises from some form of delusion or hallucination.

In other cases there appears a depravity of the moral nature as exaggerated as that already described as arising in the physical appetites. Women who have always borne reputations of the highest character are overcome with a desire to appropriate articles belonging to others, of almost any kind, which they may chance to see. These may be of very little value and such as the person never before had any interest in possessing, but the desire to appropriate them now becomes quite irresistible, and little effort is made to conceal it from others. In short, they are veritable kleptomaniacs, and at times it may become a very delicate duty of the physician to give his opinion in such cases, and to explain how such methods of conduct may depend upon the mental derangement of pregnancy.

PUERPERAL INSANITY.

The term **puerperal insanity** will be used as descriptive of cases which may develop immediately after delivery and also of those which may arise during the first succeeding

five or six weeks. Nearly all cases develop within a month and many within a few days. In 27 of 68 cases studied, the symptoms are reported to have appeared "immediately" after delivery and in 22 others within one week; in seven of the remainder the symptoms appeared during the second week; in five during the third week, and in the remaining nine during the fourth week.

It more frequently occurs in primipara, and the probability of its recurrence becomes less in each subsequent labor, as the uterus and nervous system become accustomed to these physiological experiences. In 175 cases at the Retreat 125, or 71 per cent., occurred in first labors, twenty-six in second labors, seven in third, three in fourth, two in fifth, one in sixth, while eleven have no record in this respect.

According to some authors it is more frequent after the first labors of women who are between thirty and forty years of age, than in the first labors of younger women, especially if the labors are attended with injuries to the soft parts, or the delivery is effected by the use of instruments. This statement, so far as it relates to age, is not corroborated by the statistics of cases at the Retreat. The number of those under 20 years of age is three; between 20 and 30, 89; between 30 and 40, 66; 40 years and over, 14; and in three the age is not stated. There exists, of course, a more or less strong probability of error in reference to the factor of age as reported.

—When we take into consideration the large quantity of blood lost at the termination of many labors and the consequent change in the general circulation; also the change which occurs in the quality of the blood by the sudden introduction of fluids which lower the relative quantity of its solid constituents, thus rendering it less fit for its normal

physiological function; the long hours of suffering and straining, with the incident pressure of blood upon the sensitive tissues comprising the cerebrum, and add to these the emotional disturbances which occur from calling into activity the maternal instincts and all that is embraced in these in the way of sudden and profound impulses and states which arise in many delicate women,—we surely may be surprised that more of them do not become insane during the puerperal period, especially when the element of heredity exists. According to Dr. Clouston, in Scotland, only one woman in 400 becomes insane from child-bearing. The statistics of the Retreat and the Connecticut Hospital for the Insane indicate a still smaller per cent. in Connecticut.

The deteriorated condition of the blood which exists in many women during the week next subsequent to labor, from the partial suppression of the lochial discharge, especially when local lesions of the neck of the uterus, the vagina, or the external parts has occurred; imperfect and unequal contractions of the uterus when continuing for several days after labor, the results of retention of portions of the membranes or placenta,—all are of more or less importance as elements in the ætiology of puerperal insanity.

Dr. Bevan Lewis* furnishes the following table of five cases, indicating the character of the blood in puerperal insanity:—

* "Text-Book of Mental Diseases," p. 370.

AMOUNT OF HÆMOGLOBIN IN THE BLOOD OF THE SUBJECTS OF PUERPERAL INSANITY.

CASES.	HÆMO- GLOBIN, PER CENT.	RED CORPUS- CLES, PER HÆMIC UNIT.	WHITE CORPUS- CLES, PER HÆMIC UNIT.	VALUE OF CORPUS- CLES.	REMARKS.
I.					
Oct. 1, 1887 .	20	53.6	.25	.35	Extreme waxy pallor; blood <i>very pale</i> , watery, and instantly separates into serum on withdrawal; contains many minute cells like nuclei and ill-formed corpuscles.
Oct. 4, 1887 .	28	41.4	.06	.68	Minute fat globules in blood and many ill-formed corpuscles.
Oct. 8, 1887 .	28	40.8	.12	.60	Still many minute nuclear bodies; blood pale, but has more consistence.
Nov. 6, 1887 .	32	71.6	.16	.45	Red discs, all contain glistening, nuclear bodies; some tend to form dumb-bell shapes, and readily split up. Wild excitement for some days past.
II.					
Nov. 15, 1887 .	74	93.6	.28	79	Profound melancholia; waxy color of face; compulsory feeding requisite. Many minute corpuscles in blood, some dumb-bell form; large corpuscles measure $\frac{6}{10}$ to 8 m.; smaller measure, 5 m.
III.					
Nov. 2, 1887 .	78	102.8	.22	.76—	Considerable torpor of movement; much stupor, but no cataleptic phenomena; pupils dilated; betrays but slight anæmia.
IV.					
Dec. 2, 1887 .	60	80.6	.24	.75—	Medium size corpuscles (5 m.), a few small nuclei (2 m.). White corpuscles measure 8 m.
V.					
Aug. 10, 1888 .	55	124.	.18	.44	None.

Symptoms.—When the disorder arises within a few days after childbirth the symptoms are nearly always of a maniacal type. The contrast in this respect with those which exist in the insanity of pregnancy is very marked. Of the 175 cases in the Retreat 135 were maniacal. Of 36 cases in which the symptoms developed within four weeks 22 were maniacal, 11 had symptoms of melancholia, and 3 had alternating states of excitement and depression.

In the primary stage the patient becomes talkative, changeable, unreasonable, restless, suspicious, and exhibits feelings of aversion toward her husband and other members of the family; demands things which she has not been accustomed to have, and if refused may burst into tears and become much excited. The eyes become over-sensitive to the presence of light and present an unusually bright and excited appearance. The face begins to take on a haggard expression; the skin becomes moist and the tongue dry. Tenderness on pressure over the uterus may or may not be present. And in some cases the bowels become distended and tympanitic. The patient refuses food, both solid and liquid, and declares that she hears voices which forbid her to take it; and at times may be controlled by the delusion that the food is poisoned.

In some cases one of the earliest indications of the approach of disease consists in the exhibition of a morbid character of the maternal feeling toward the newborn child. The mother looks askance at it and desires that it be taken from the bed and out of the room, realizing in some measure that she may do it injury if it is left with her. Horrible impulses come into consciousness which she fears she may be unable to control, and sometimes they end in terrible catastrophies before the friends realize the danger or fully appreciate the fact that disease exists. These unusual

exhibitions of abnormal maternal instinct are sometimes thought little of by friends and may be attributed to irritability or willfulness. They, however, exist in so large a per cent. of cases that it should never be considered as safe to leave the child alone with the mother.

These semi-acute symptoms may continue for a few days or may suddenly become intensified; the patient becomes more talkative, excited, and violent; is unable to sleep and does not, except from the effects of large doses of medicine; indeed, insomnia is one of the most constant of symptoms. The aural and visual hallucinations become more distinct and dominating. Hallucinations of general sensation and of taste and smell are not common, nor are hallucinations usually present except in cases of mania.

Twelve of 22 cases of puerperal mania experienced both aural and visual hallucinations; while they were present in only 33 per cent. of 36 cases affected alternately with mania and melancholia. Hallucinations of sight are generally of an unpleasant or frightful character, and in this respect resemble those existing in delirium tremens. Some patients have visions of impending evil and endeavor to throw themselves from the bed or out of the window to avoid the imaginary danger. They become noisy, extremely talkative, or incoherent; obscene in looks, acts, and language; expose their persons by suddenly throwing off the bed-clothes; and exhibit great physical force for a short time during the periods of sudden violence which frequently occur.

The pulse generally becomes increased in frequency during the first stage of the disorder, and soon gives evidence of diminishing strength. The nervous system becomes highly sensitive, so that the shutting of a door or other sudden sound causes the patient to start with fright,

the immediate effects of which do not pass off for a considerable time.

Both **homicidal** and **suicidal** tendencies may exist. In the first case the patient is generally under the dominance of the delusion that the nurse or some member of the family who may have the care of her is about to do her injury, and she suddenly attacks the person in self-defense, using every means in her power to defend herself and destroy her imaginary enemy. Delusions are generally present in from 33 to 50 per cent. of all cases and in a still larger per cent. of maniacal cases. They seem to arise from hallucinations, and as these are, as already noted, nearly always of a terrorizing character the delusions are those of impending danger and injury. Food is refused because it is poisoned and every one is conspiring to take her life. In the second case she makes an effort to fly from some impending evil which seems to come to her through the presence of hallucinations, and the intense fear appears to drive all other thoughts, except those of safety, from her mind. She screams with terror and tries to dash herself against the walls of the room, to throw herself from the window, or strangle herself if left alone long enough to enable her to make the attempt. In the 175 cases at the Retreat suicidal impulse or efforts are noted in only 15 per cent. Of 36 cases at the Connecticut Hospital for the Insane 33 per cent. were either homicidal or suicidal or both; and 27 per cent. had made attempts to injure the offspring.

These conditions of excitement usually continue ten days or two weeks and are succeeded by a more or less protracted period of dementia or melancholia, attended with delusions which often relate to the members of her family. Hallucinations are rarely present in the latter stages of the disorder.

In those cases in which the symptoms assume the type of **melancholia** or **dementia** from the first, the physical symptoms described as pertaining to puerperal insanity are not present. In the larger proportion of such cases the development of the disease is postponed until after the fifth week or later. Hallucinations are much less frequent and if present less frightful in character. Delusions, if present, are of the same general character as those which are present in melancholia from other causes. The character of thought is subjective; insomnia is often present and the patient is dominated with the belief that she is deserted by husband and friends, that she is unworthy, and is to be forever punished, etc. Of 114 cases in the Connecticut Hospital for the Insane 26 per cent. presented symptoms of melancholia.

Convalescence generally becomes established in the course of eight or ten weeks. The force of delusions gradually fades away, the mind becomes more active and interested in the details of daily life, and also in the presence of friends or relatives who may visit them, and from this period the patient passes on to a good recovery. In 20 cases there was a recovery in 75 per cent., and in nearly all within a period of five months. In 39 cases of recovery at the Connecticut Hospital five occurred in less than four weeks, 15 in less than eight weeks, six in less than 12 weeks and the remaining 13 in periods of from five to ten months. If the recovery is postponed beyond the period of five months the probability of its occurrence rapidly diminishes. The prognosis will therefore depend considerably on the length of time which has elapsed since the onset of the disorder. According to Dr. Bevan Lewis,* the element of

* "Text-book of Mental Diseases," p. 372.

age is also an important factor in determining the prognosis, patients under 30 having a much more favorable prospect of recovery than those considerably past that age. This view does not appear to be corroborated by the record of the 39 cases embodied in the table on page 358.

It does not appear from this table that *recoveries* were very much hastened by early admissions. The average period during which the disorder had existed prior to admission, in the first three groups, is nearly the same, while the period during which they were under treatment is doubled in the last of the three, as compared with the first. The same point is even more fully demonstrated in the succeeding groups of cases. Nor does age appear to be a factor of much importance in relation to the duration of the disease, the average being the same in first and last groups. Other elements, such as physical condition, heredity, and forms of disease, must be considered as important in relation to early recoveries.

CASE 1.—A. V., age 24, had her second confinement about two weeks prior to her admission to the Retreat. A few days subsequently to confinement she became suspicious, turned against her husband and friends, and thought she saw devils on the walls flitting about her room. She threatened to kill both her babe and her husband, and was much excited. When admitted, however, she was quiet; the effort incident to the journey evidently had had a soothing effect. She had not slept during four days and nights. Her pulse was 90, full and soft, the skin moist, and she had taken but little food for several days.

TABLE SHOWING THE AVERAGES OF TIME UNDER TREATMENT, IN SPECIAL
RELATION TO THE LENGTH OF TIME DISEASE HAD EXISTED PRIOR
TO ADMISSION, AND AGES, IN THIRTY-NINE RECOVERIES.

No.	DISEASE EX- ISTED PRIOR TO ADMISSION.	AVER- AGE.	RECOVERED.	AVERAGE.	AGE.	AVERAGE.
1	3 months.	30 + days.	1 month.	3 $\frac{4}{5}$ weeks.	35	31 $\frac{3}{5}$ years.
22	6 days.		3 weeks.		28	
48	7 days.		1 month.		43	
62	3 weeks.		1 month.		24	
34	1 month.		1 month.		28	
3	2 months.	31 + days.	2 months.	7 weeks.	27	28 $\frac{5}{8}$ years.
4	10 days.		6 weeks.		36	
42	3 weeks.		6 weeks.		23	
47	6 weeks.		6 weeks.		29	
55	5 weeks.		2 months.		22	
69	4 days.		2 months.		29	
70	12 days.		6 weeks.		24	
84	7 days.		2 months.		32	
89	3 months.		7 weeks.		35	
5	2 months.	34 days.	3 months.	7 $\frac{1}{2}$ weeks.	33	25 $\frac{1}{6}$ years.
14	4 weeks.		3 months.		20	
19	4 weeks.		3 months.		22	
68	4 weeks.		3 months.		23	
88	7 weeks.		11 weeks.		24	
95	2 weeks.	22 + days.	3 months.	11 $\frac{1}{2}$ weeks.	29	23 $\frac{5}{6}$ years.
8	20 days.		4 months.		22	
44	3 weeks.		14 weeks.		24	
46	6 weeks.		4 months.		28	
49	5 days.		15 weeks.		22	
54	5 weeks.		4 months.		28	
81	2 weeks.		14 weeks.		19	
20	5 weeks.	36 + days.	5 months.	5 months.	24	26 $\frac{1}{4}$ years.
28	9 days.		5 months.		26	
7	6 days.		7 months.		19	
21	16 days.		7 months.		33	
35	2 months.		7 months.		24	
58	6 months.	49 + days.	7 months.	9 months.	30	31 years.
66	3 weeks.		7 months.		26	
77	10 days.		7 months.		23	
27	10 weeks.		7 months.		24	
29	3 weeks.	10 $\frac{1}{2}$ months.	9 months.	10 $\frac{1}{2}$ months.	35	34
64	4 weeks.		9 months.		27	
91	4 months.		10 months.		35	
85	5 days.		11 months.		34	

She was given milk and eggs, beef tea and beer, with chloral at bedtime, but did not sleep until the second night after admission. In the course of a few days she became utterly careless as to her dress and person, very filthy, and would take no food except as it was fed to her with a stomach tube. This state of mind continued for about ten days, when she began to take food more willingly and freely, and slept some during the day as well as at night. The breasts, which had been swollen, became less inflamed and more soft; the mind gradually became less excited but was much confused. The untidy habits, however, continued several weeks, after which the mind rather suddenly improved in the quality of its activities and in strength. She could answer questions correctly and asked to see her husband and child; looked over the illustrated papers which were given her and occasionally shed tears when alone. After eight weeks she appeared quite cheerful and wished to return home with her husband when he came to see her, and was discharged a week later, having gained several pounds in flesh.

CASE 2.—E. S. D., age twenty-one, single, domestic. Swede. In July, 1886, she was confined. On August 24th she was admitted to the Asylum. Three days before admission she had become much disturbed and talked continually in a very rambling and incoherent manner. She attempted to kill her nurse with a knife. Upon her admission she was very much excited and her friends reported that she had not slept any for three days. She slept very little the first night and was quite noisy. Two days after admission she began to sleep at night, but did not take much nourishment. August 29th she is reported as mischievous, attempts to throw things out of the window, and to disrobe herself. She imagines that she owns the institution and that she

can regulate the weather. She requires much personal attention.

September 1st. The patient developed pneumonia of the upper lobe of the left lung, with a temperature of 104° F.

September 5th. She was convalescent from the pneumonia and began to gain in physical strength.

September 24th. She was in fair bodily health, was quiet and agreeable, though at times she was found crying very piteously. On account of her inability to speak English, except very imperfectly, it was very difficult to ascertain the character of her delusions.

October 17th. Her physical health was excellent. She had become quite fleshy; exercised good self-control, and employed herself usefully at times, though she was still under the force of distressing delusions, and feared that she was to be killed or forced to work and not be permitted to go to her own home again.

November 17th. She had no delusions which could be discovered, and frequently requested to be allowed to go to her home. Had gained about thirty pounds in flesh.

December 16th. She was reported as fully recovered.

CASE 3.—The third case to which attention is called presents other elements of ætiology, and is interesting as it illustrates what has been stated in reference to the intimate connection the insanity of one period may sustain to that of another. Her first attack occurred during pregnancy.

P. C., aged thirty-five, English, married, and of good heredity; has always been of correct habits, industrious, and of previous good health. She had exhibited symptoms of insanity, however, about four months prior to the birth of her second child, but they were of short duration. After the labor she improved rapidly.

The present attack dates back to about a year ago—previously to the birth of the youngest child. She became very emotional and would laugh immoderately and then suddenly cry. She has often made threats of violence, but never any attempt to execute them. Her sleep has been scant, but her appetite almost voracious. She has complained of starving, although an abundance of food has been provided for her. She has destroyed her furniture and clothing, and would not keep herself tidy nor allow others to.

January 5th. The patient entered the Institution in a broken down state of physical health, having recently experienced an abortion. She was very feeble both in mind and body; had no well-defined delusions. She suffered considerably from hemorrhages from the uterus, subsequently to the abortion. During the next two months the uterine trouble was corrected and she improved steadily afterward. She became pleasant and very industrious, but had delusions concerning her social standing, and also about her husband.

Three months later, the patient became depressed and rather irritable. Her delusions became very active and did not change in character. Her physical health was well maintained.

September 22d. The patient stated to-day that she was born and bred a lady, and demanded apartments and servants suitable for her supposed condition of life. She complains of the noise and imagined ill-treatment she receives at the hands of her fellow-patients, but is quite noisy herself. She does not seem to recognize that fact. She blames her husband for keeping her here.

December 16th. For the last month the patient has been

very comfortable. Her delusions, if they exist, are dormant, and she makes herself quite agreeable. She is industrious, tidy, and quite sociable, attends dances, parties, and other amusements, and is, apparently, making a very good recovery.

LECTURE XIX.

INSANITY OF THE PUERPERAL PERIOD. (CONCLUDED.)

Treatment of Puerperal Insanity, Local and General—Insanity of Lactation—
Ætiology—Period of Lactation—Influence of Prolonged Lactation—
Modes of Living—Accidents and Complications at Time of Labor—
Effects Upon the Blood and Nervous System—Symptoms—Suspicion—
Depression—Morbid Impulses—Sexual Excitement—Hallucinations—
Physical Condition—Tables of Cases at the Retreat and the Connecticut
Hospital—Illustrative Case—Prognosis Generally Favorable—Of Fifty-
four Cases, Thirty-nine Recovered—Treatment.

Treatment.—This is of great importance in all cases and especially in those which depend upon abnormal conditions existing in the uterus and its appendages. Examination should be made at the earliest practical opportunity, with the purpose of ascertaining what injury, if any, may have occurred to the neck or to the external parts, and also for the purpose of determining whether the involution of the uterus has been properly consummated, or if it is in the way of becoming so. If the lochia are of a foetid character, warm and soothing lotions and injections should be used and the vaginal passage properly cleansed. In case the temperature is high, small doses of aconite may be given hourly, and saline mixtures given with a view of securing one or more evacuations from the bowels. Special attention should be given to the condition of the breasts, and the milk should be

removed by a breast pump. Warm fomentations and rubbing may also be used to prevent the formation of abscesses. Simple and nourishing food should be given often, and, if necessary, should be administered with a tube. Sleep is of special importance in the treatment of this form of insanity. It may usually be secured more surely by a 15- or 20-grain dose of chloral than by any other hypnotic. When this is contraindicated for any reason sulfonal or chloramid may be used with advantage. In some cases the bromide of sodium with cannabis indica has proved to be efficient in securing several hours of sleep each night. In those cases in which the blood is much impoverished cod-liver oil and cream or rich milk, with wine, may be given after the more active symptoms have passed away. Iron in some form, either alone or combined with strychnia, may be used with good results. In fact, iron is more often beneficial during the latter stage of puerperal insanity than in many other forms.

Care should be taken from the first to secure movements from the bowels by the administration of the most simple laxatives or by the use of suppositories. It is very important to secure frequent changes in the air of the rooms occupied by the patient and also to have several hours of sunshine in the room. As soon as practicable the patient should be taken from the house and into the open air every pleasant day, where she should pass several hours with her attendant if the temperature is such as to warrant it. Improvement in the physical condition is, in the large majority of cases, attended with improvement in the mental states.

INSANITY OF LACTATION.

Ætiology.—The third and remaining form of insanity connected with and arising from child-bearing is that of **Lactation**. It is nearly always of an anæmic type, and its symptoms resemble those existing in cases which arise from other causes producing this state in the system. This form, like that of puerperal insanity proper, is more likely to occur in females above 30 years of age; but unlike that, is rarely found except in women who have borne and nursed several children, or when there has occurred a large hemorrhage or other complication at the period of labor. In some cases the division between the two forms is a rather arbitrary one. We have already stated that puerperal insanity proper may not arise until several weeks after the labor, and consequently long after the function of lactation has become fully established. Such cases, however, should be confined to that group in which the ætiology exists in the abnormal conditions of the uterus itself, and has little or no relation to lactation. Such a distinction can generally be recognized, for, though both may act as causes of depression and greatly reduce the systemic nerve energy, yet lactation rarely acts in this way during the first three months. Indeed, it is a function so closely allied to the deepest maternal instincts, that nearly always the mother experiences greater disturbances from its suppression than from almost any other incident that can occur at this time. Whereas, the disturbances which are engendered in connection with the imperfect involution of the uterus and lesions of its neck, attended with the strain upon the brain incident to protracted labors, act as a powerful factor of irritation and exhaustion of the nerve centres, and always during the few weeks next subsequent to the termination of labor.

The period requisite for the occurrence of **normal involution** of the uterus will vary somewhat in different cases and in the same cases in different confinements, it being in some measure dependent upon the physiological condition of the system at the time. It may, under favorable conditions and in healthy subjects, occur after the first two or three labors within four or six weeks; but is likely to be longer delayed in subsequent ones, especially if the labor has been complicated or the pregnancies have occurred with short intervals. In some women it is rarely complete in less than three months.

The period during which nursing may, with safety to the mother, be continued; must depend very greatly upon the physical conditions existing. Many women nurse much longer than is advisable for their health, with the object of avoiding another pregnancy; and when the advice of the physician is asked in reference to the length of time it can be continued with safety, I think one of the most important points of inquiry should relate to the hereditary tendency. If this exists in even a small degree in the family, or the mother has formerly experienced conditions of nerve exhaustion, anæmia, or an attack of insanity, the child should be weaned before, or at the earliest indication of, any debility which appears to arise from the continuance of the function. Some mothers may with impunity nurse their children twelve months, while others should never pass beyond three or six.

The influence of **prolonged lactation** is an important factor which is not usually sufficiently recognized by the physician. A large difference in the capacity for nursing and in its effects upon the system exists even in healthy women. While in some the materials essential to the formation of milk of good quality may be taken from the blood with little or no

unfavorable effect upon the system, yet with some others who are obliged to make much muscular exertion in labor it tends rapidly to diminish the fatty matters essential to health and vigor.

Again the modes of living, the quality of food, and the habits of life exercise a considerable influence upon lactation. Those women who enjoy a sufficient and moderate amount of exercise in the open air, and take an abundance of nitrogenous and fatty elements in their food, are likely to become and remain better nurses than the more sensitive, who live in heated rooms with vitiated air and take but little exercise except indoors, especially if overworked and burdened with care. In such cases the drain upon the system, from the frequent suckling a large infant six or eight months old, tends rapidly to develop a state of anæmia; and if continued beyond the first indications of this condition is likely to be followed by serious mental disorder. Again, not only should the heredity and the normal temperament be taken into consideration in giving counsel as to the continuance of lactation, but also the history of the confinement and the present environment of the individual.

Allusion has already been made to the influence of **accidents** and **complications** at the time of labor, such as unusual floodings from imperfect contractions of the uterus, retained portions of the membranes retarding the normal course of uterine involution, profound impressions upon the brain and nervous system from the long continuance of pain in highly sensitive women—as being directly or indirectly a factor of causation in puerperal insanity. But this influence does not end with the involution of the uterus; and while, in any given number of cases, it may not prove to be sufficient to cause the development of insanity during the first few weeks succeeding labor, yet

in connection with other agencies at a later period it may prove to be very important. The effect is always from the first of a lowering character. The store of nerve energy becomes lessened and the inhibitory centres weakened. The system, therefore, is in a much less favorable state to bear the experience of a protracted period of lactation than it would be if no such complications had occurred. The nerve centres have experienced a profound shock and strain, or the blood has been so greatly diminished that it cannot fully regain its normal constituents of red corpuscles and fibrin while lactation is carried on, and the patient tends rapidly toward an anæmic state.

Among the poor, too (and it should be borne in mind that lactational insanity is much more common with them than with those who are favorably conditioned), the hygienic environment is often most unfavorable. The food is generally of poor quality and improperly cooked; the child may be ill and restless at night, so as to prevent the sleep of the mother. She generally has the care of several other small children and also of the whole household, and all the while is living in the sexual relations of a wife. In short, the whole physical and mental system experiences such exposures and hardships as must test the most robust, and only such are able to pass through them with impunity. The more delicate and sensitive, and especially those having an hereditary tendency, are those who succumb. In reviewing, therefore, the ætiological elements as above presented, it will be observed that while lactation, to which has been assigned the first position, has determined the nomenclature of the disease and should properly be made prominent, yet it has associated with it in the larger proportion of all cases other elements of causation the relative importance of which will vary very much in different cases.

Symptoms.—The symptoms may be of an excited or depressed type, but in either case they are generally of a more transitory character than in other forms of insanity. Sometimes, though rarely, they partake of the character of dementia. The record of eleven cases which have been in the Connecticut Hospital shows that in seven of them the symptoms of mania were present; in three, those of melancholia; and in one, those of dementia; these figures indicate that 63 per cent. were cases of mania and only 27 per cent. were cases of melancholia. This corresponds very closely with the experience of Dr. Bevan Lewis in his statistics, comprising 66 cases. But in Dr. Clouston's experience with 50 cases, the states of excitement and depression were quite evenly divided—21 being somewhat excited and 19 being mildly depressed. The degree of excitement or depression is generally less than pertains to other acute insanities and yields more quickly to the effects of remedies.

The **first mental indications** are those of doubt and suspicion, especially of the husband and those that sustain the nearest family relation. Whatever may be said or done is very likely to be misjudged and wrongly interpreted by the patient. These mental states, with a mild form of depression, may continue for three or four weeks and frequently longer before the patient becomes excited, somewhat noisy, and incoherent. The degree of excitement varies considerably in different patients. Some become very noisy, aggressive, abusive in language, violent, and destructive, and largely dominated by imperative concepts of fear and delusions of impending danger. They imagine that their most intimate friends are conspiring against them, and endeavor to protect themselves by attacking them.

Morbid impulses are not infrequently present in maniacal cases, especially when the patient is anæmic, feeble,

weak, and the general physical condition has become greatly reduced before the onset of the disorder. In such cases the hallucinations appear to be more intense and vivid and their effects are quite like those existing in ordinary puerperal insanity. It is impossible to predict what is likely to be the course of conduct at any time, and sometimes patients become highly dangerous.

In those patients whose symptoms do not assume a manic type, the **conditions of depression and melancholia** generally become more pronounced as the disease advances. They believe that they are ruined and are soon to be punished or publicly disgraced, and hence require the most careful and constant observation lest they attempt suicide. Under the effect of delusions of persecution and impending danger they frequently refuse to take food and declare that it has been poisoned.

Manifestations of **sexual excitement** as evinced in language and behavior are less frequent in cases of lactational insanity than in those of puerperal insanity proper, and feelings of strong aversion toward the husband are common. The wide difference in the physical conditions existing in the two forms of disease doubtless accounts for this.

Hallucinations of both sight and hearing are very common and generally form the basis from which delusions arise. Suicidal tendencies are present in from fifteen to twenty per cent. of all cases, and develop from the fear and dread of some impending calamity. In the more acute cases it has been observed that the symptoms develop during the first four or five months and the patients are more likely to become restless, suddenly irritable, excited, noisy, and talkative, without any preceding period of depression. Thoughts become incoherent and rambling and have little sequence or order. But the history of the larger propor-

tion of cases indicates a slow development, and patients rarely pass suddenly into a maniacal or dangerous condition; the developmental period usually extends over several weeks, during which the patient is more or less restless and depressed and presents indications of physical and mental weakness. **Insomnia** is often present both during the initial and excited stages of the disorder.

The **physical condition** is one of debility. The patient is anæmic, weak, and thin in flesh. The pulse is increased in frequency and easily compressed; the face and lips are pale, and complaints of pain of a neuralgic character in the head, flashes of light, lumbago, dragging sensations about the lower portions of the back, noises and ringing in the head and ears, etc., are very commonly made.

The tables on pages 372 and 373 are of interest, as they indicate the symptoms and results in the cases which have been studied as a basis for this lecture:—

The following case presents in a mild form some of the more common symptoms and physical conditions which are found to exist in lactational insanity. As will be observed, the general health was much below its ordinary state, possibly, in the first instance, from strain and nerve exhaustion incident to teaching, and secondly from the effects of the prolonged labor and instrumental delivery. These causes, together with the drain upon the system, in its effort to nourish the child, proved sufficient to upset the brain, though there does not appear to have been any history of heredity in the family.

C. A. H., age thirty-three, married about fifteen months. Had been for fifteen years previous a school teacher, and on one or two occasions broke down from nerve exhaustion and was unable to teach for several months. Now has a child three months old. The labor was prolonged and the

CASES OF INSANITY OF LACTATION IN THE RETREAT.

AGE.	HEREDITY.	SYMPTOMS.	RESULT.	SUBSEQUENT HISTORY AND REMARKS.
24	Not stated.	Melancholia.	Now under treatment.	None.
23	Not stated.	Melancholia. Suicidal.	Recovered in 5 months.	None.
37	Denied.	Melancholia.	Much improved in 5½ months.	None.
32	Not stated.	Mania.	Recovered in 3 months.	Has five children.
27	Not stated.	Mania.	Much improved in 5 months.	Had had one previous attack. Has six children.
39	Not stated.	Mania.	Improved in 17 months.	Had one previous attack. Has seven children. Readmitted once.
22	Not stated.	Mania.	Recovered in 6 weeks.	None.
37	Sister insane.	Melancholia. Suicidal.	Recovered in 3 months.	Has six children.
29	Not stated.	Melancholia.	Much improved in 4 months.	Has three children.

CASES OF INSANITY OF LACTATION IN CONNECTICUT HOSPITAL FOR INSANE.*

AGE.	HEREDITY.	SYMPTOMS.	RESULT.	REMARKS AND SUBSEQUENT HISTORY.
25	Denied.	Mania. Demented.	Now under treatment.	None.
30	Not known.	Mania.	Recovered in 10 months.	Had one subsequent attack.
28	Not stated.	Mania.	Now under treatment.	None.

* Furnished by Dr. James Olmsted, Superintendent.

AGE.	HEREDITY.	SYMPTOMS.	RESULT.	REMARKS AND SUBSEQUENT HISTORY.
36	Denied.	Mania.	Recovered.	Readmitted once and discharged stationary.
26	Not known.	Melancholia.	Now under treatment.	None.
30	Brother insane.	Dementia. Suicidal.	Improved.	Was insane after second and third confinements.
36	Mother insane.	Melancholia.	Improved.	Readmitted twice.
19	Doubtful.	Mania.	Recovered.	None.
29	No.	Melancholia.	Now under treatment.	None.
34	Mother had puerperal insanity.	Melancholia.	Improved.	Had one previous attack of lactational insanity.
37	No.	Melancholia.	Recovered.	None.
34	No.	Mania.	Recovered in 13 months.	None.
32	Not stated.	Melancholia. Suicidal.	Recovered.	Had eight children in twelve years.

delivery instrumental. She has been about as usual and nursed the child, though feeling weak and unable to make any exertion. Finally she was brought to the hospital for the purpose of building up her general health, and after admission there became affected with hallucinations of hearing, and thought persons were calling to her. She made efforts to reply to these voices, and after a few days became so much excited and noisy that she was transferred to the Retreat. On admission she was despondent and

unable to sleep except with medicine, looked thin and anæmic, but was able to reply to all questions when her attention was secured. She continued to talk to herself or to imaginary persons in a rambling and incoherent manner, and was greatly despondent. She was at once put upon the use of the hypophosphites and an abundance of food, and took hydrobromate of hyoscyne for sleeping at night. She continued for some two or three weeks to imagine that some calamity was impending, and that she was fast failing and should never recover; that she was liable to die at any moment. She was suspicious and would not believe what was said to her; but in spite of all her forebodings she slowly gained; the hallucinations became less and her strength improved until she was removed by her friends, and though she was still in a condition of debility and could not be regarded as fully recovered, yet I have no doubt she did recover at her own home.

Prognosis.—The prognosis in lactational insanity is generally favorable. By reference to the preceding tables it will be observed that of nine cases in the Retreat, four recovered, and three were so much improved within five months (*i. e.*, were so nearly recovered) that they were removed by friends; as they did not return, they may be considered as recovered. The recoveries, therefore, amount to 77 per cent. One of the remaining two was discharged as improved. She had experienced one previous attack, had borne seven children, and was admitted once afterward. The remaining one is under treatment. Of the 13 in the Connecticut Hospital six recovered; those who were discharged as improved had experienced former attacks, and two more of them had subsequent attacks, while four are under treatment. Of 54 cases reported by Dr. J. Batty Tuke, 39 recovered. Dr. Clouston reports actual

recoveries amounting to 77.5 per cent., and with a still higher percentage as probable, some of the patients having been removed before recovery was complete. In the analysis of results as reported by Dr. Bevan Lewis the percentage of recoveries is 65.6.

Treatment.—The indications for treatment are readily suggested by the physical states which are present in the larger number of cases and can hardly be mistaken. Those cases which are affected with the milder form of mental derangement can be easily managed in their own homes if the conditions of living are favorable and good nurses can be secured. Indeed, no inconsiderable number are thus cared for as are indicated by the statistics of asylums. The aversion toward removing such cases from home is greater than exists in patients affected with some other forms of insanity.

It is, however, better that the larger proportion of patients should be removed from the influences and responsibilities connected with home life and placed beyond continual reminders of them. They require to be relieved from the friction and irritation which comes from the care of young children and which has probably been a factor of causation. Freedom from care of self and others, regularity in the use of food in large variety, favorable conditions for securing an abundance of sleep, new scenes and skillful nursing, all tend to place the patient in the most favorable environment for recovery. The prospect of recovery, which can be stated to friends, will act as a strong inducement toward leading them to place the patient in the care of some institution. As preliminary to this, however, it is desirable to wean the child if this has not already been done.

The first point of importance in the treatment after

admission to an institution or at home is the administration of an abundance of highly nutritious food. This should be given as often as every four hours, or at least five or six times in the course of 24 hours. It should consist of milk and eggs, beef extract or strong broths, fish, and easily digested meats. Uncooked eggs beaten up with wine or cider are generally relished and will take the place of solid food if this is refused. A glass of milk taken before retiring, or when awake during the night, will often be of service and tend to allay restlessness.

In cases of insomnia, hyoscine, sulfonal, chloralamid, or, in case any one of these should not produce sleep, chloral, may be used for a few nights. If an abundance of food is taken the use of the above hypnotics at bedtime for a short period will generally be sufficient to prepare the system for sleep without the use of any hypnotic afterward. Opium should not be used unless in those cases in which depression is present, and then should be combined with the bromide of sodium or bromide of ammonium. Bitter infusions, quinine, wine or malt liquors, cream or cod-liver oil, and the free use of eggs, with gentle exercise in the open air by riding or walking, will tend rapidly toward a cure. Fowler's solution will sometimes be of essential service. It should be given in small doses at first, three- or four-minim doses three times a day, and may be increased from week to week according to indications. Rubbing and warm salt baths are also important in some cases; but it should be remembered that, after all, an abundance of easily digested food of good quality, in small quantities and frequently used, is a prime necessity and will conduce toward recovery more than any other one thing.

LECTURE XX.

INSANITY OF MASTURBATION.

Ætiology—Effects of Sexual Derangement upon the Mind—Anxiety—Seminal Emissions—Neurotic and Sanguine Temperaments—Heredity—In Cases of Adolescent Insanity Masturbation is Often a Consequence Rather than a Cause—Symptoms—Debility—The Circulation—Appetite—Seclusion—Depression—Irritability—Cases—Diagnosis—Religiosity—Dislike of the Opposite Sex—Tendency to Seek Isolation—Short Periods of Self-importance—Prognosis—Treatment—Importance of Labor in the Open Air, etc.

Ætiology.—The connection and sympathy existing between the intellectual and sexual centres of the brain and their reciprocal influence have long been recognized as most intimate.

A lack of development in the sexual organs, at that period of life when they usually come into normal activity, is nearly always attended with a corresponding weakness and childishness of the mind; and it is only when the sexual organs become fully developed that the mind passes into the freedom and courage of manhood. Further, this influence continues to old age, and a derangement of no function or system sooner manifests itself on the mind than that of the sexual organs.

Indeed, it is not always necessary that the change in functional activity be an actual disorder to raise anxiety and forebodings. Often a mere change in sexual feeling,

especially if it is one of lessened or irregular activity, which may be due to some unusual experience, when long protracted, or an undesired excitement of the organs, may prove quite sufficient to arouse this anxiety and render the individual miserable for the time being. Hence almost every practitioner of medicine has had numerous visits from young persons who nearly all come with a similar story, which runs somewhat as follows: that when young boys they had learned from older ones the wretched habit of self-abuse; that they occasionally practiced it for years, or until they learned in some manner that it was wrong, or became convinced of it by its effects upon themselves; that since such discovery they have abandoned the habit, but have been subject to seminal discharges; that these experiences, which have occurred as often as every two or three weeks or oftener, they feel confident, are producing a very bad effect upon their general health, are, in fact, sapping its very foundation.

When asked for the reason on which they base such conclusions, they can only reply, in a general way, that they feel languid and fatigued after wakening in the morning; that they frequently do not sleep so soundly as in former times; that they are subject to occasional headaches and unpleasant dreams, and constantly harassed with fears as to their future health and manhood.

When questioned more definitely as to any actual change which has already taken place, whether they are disabled from labor, or have lost flesh or strength, or have any actual pain or debility which disqualifies them from performing their usual duties, they are forced to admit that no such results have already occurred. They, however, are constantly haunted with the expectation that they will soon come, and hence they beg you to prescribe such remedial

and preventive measures and medicines as will be sure to save them from such experiences.

Another class, less numerous than that already referred to, come with a similar story, except that they did not learn of the evil effects of the habit until after long years and an excessive indulgence in it.

Many of them have attained this knowledge at last only by the debility which has occurred in the sexual organs, or from some stray quack advertisement of a newspaper, the full meaning of which they have hardly comprehended. When finally they have determined to abandon the habit, they find themselves greatly annoyed and weakened by frequent seminal discharges. These have continued so long that the subjects experience a debility of both mind and body; they lose flesh, have occasional night-sweats, and wretched dreams; have lost interest in their usual avocations and the society of friends, and think they are unable to become interested in either study or labor, however much they may endeavor to do so. They have become timorous, emotional, easily excited, and often restless, and have frequent foreboding as to their future, and, in short, are in a state of mind to believe almost anything, however bad and hopeless it may be, in reference to the probabilities of their case. Indeed, generally the more unfavorable the prognosis of any physician may be in reference to their future, the more serious and alarming the statements he makes in reference to the necessity for immediate and skillful treatment, the more ready are they to place confidence in his statements, and regard that physician as *the one* who fully understands their case.

These are the unfortunate ones who are preyed upon by medical sharks who prowl about through almost all large

towns and cities and parade their vile advertisements and nostrums on the pages of our daily papers.

The following is a very good illustration of this class of cases :—

A young man about twenty-four years of age came to me with the statement that he had recently become engaged to be married ; that now he was in great distress of mind and was hardly able to sleep because he found he should not be able to consummate the marriage relation ; that when a boy he had learned to masturbate and practiced it for several years, but had for a long time given it up, since which time he had been subject to seminal discharges at times, and there existed little or no sensation about the genitals ; they were lax and flabby, and he had no doubt that his semen was running away from him every time he had an evacuation of the bowels. He was fast losing flesh and vigor, and something must be done at once. Now, it is of very little use to tell such a person that his condition is far less grave than he supposes, and that he need not be alarmed, that he is sure to come out all right if he goes on the even tenor of his way—that he does not require much from the physician in the way of treatment. Such a statement, instead of assuring and comforting him, as you design to have it, will only lead him to think that you do not understand his condition, and in nine cases out of ten he will leave your office and hunt up that of some physician, or more likely that of some quack, who will tell him that his condition is indeed a very grave one, but that he can, in two weeks' time, set him all right, and put him into a condition to be married, which he proceeds to do at a charge of fifty or one hundred dollars.

Persons comprising the above-mentioned classes are

generally of a neurotic or sanguine temperament; they are highly sensitive to objective and subjective experiences, and will require special moral, and occasionally medical, treatment, but they rarely become insane.

What I desire to call special attention to in connection with this mention of them now is the marked effect which has been produced by the habit of masturbation upon those centres of the nervous system upon which the emotional activities depend; sooner or later these may become greatly influenced or deranged by such practices in persons of a highly sensitive and nervous organization; and more often long before marked physical changes occur.

There is yet another class which does not often come under the attention or care of the general practitioner. These persons differ from those already alluded to in that they generally have an inheritance of insanity, or some other neurosis; one or the other of the parents has either been insane or consumptive, or addicted to the excessive use of alcohol, or other vices.

When the system is burdened with such an inheritance, and the inhibitory centres are undeveloped or anæmic, or an unstable condition of the brain exists from any other cause, the practice of self-abuse is more likely to become excessive, and appears to produce a more profound influence upon the intellectual faculties; the brain is more susceptible to its effects, and manifests this by a derangement of its activities and a failure in its energy in such forms as are hereafter to be referred to. It may therefore be assumed that the effects of the habit of masturbation upon individuals will differ very much and will depend primarily upon the age, constitution, temperament, and inheritance.

The very young and sensitive and illy-balanced individual will become more nervous and sensitive, and therefore

apprehensive of effects which he is all the time magnifying and regarding as sure to become greater in the future, while another, who has a lymphatic temperament and a larger measure of inhibition, tends toward reserve and hesitation and is disposed to shun society, especially that of females.

It should, however, be remarked that by far the larger proportion of young persons who are insane and addicted to this habit while in this state, are not insane as a consequence of its former practice. The habit is a **consequence** and **not a cause** of their disease.

A super-sensitive or excited condition of certain portions of the brain, which has resulted from other causes, not unfrequently extends to those portions which preside over the sexual organs, and these in consequence are aroused into a morbid activity, which leads the patient into the practice. This is especially the case with females who become affected with what is termed nymphomania, and are occasionally found in all asylums. I very well remember such a case in the person of an old woman more than seventy years of age who must have been dead to all normal sexual feelings for years, whose conduct was so indecent as to require her seclusion for considerable periods. It is not unfrequently the case with highly excited and maniacal patients, and especially with those who are partially demented; and so long as the nerve centres are exhausted by the continual practice of this habit there exists little probability of improvement in the mental condition.

Symptoms.—As has already been intimated, there are cases in which the habit becomes the chief factor in causing mental derangement. The records of many such are found in the journals of all asylums. It almost always arises during the period of adolescence, though it may also appear at the grand climacteric, and even in old age; and

is quite likely to appear during the latter period if it has existed in the first.

Indulgence in excessive sexual intercourse when long protracted ordinarily tends to produce a profound impression upon the nervous system, and is attended by debility and depression. It has also been regarded as one of the most efficient causes of general paralysis. While we have no reason to suppose that masturbation may be regarded as a cause of that form of disease, yet its effects upon the nervous system are very injurious, though they terminate in a different form of disease. The symptoms are in some respects such as would be anticipated from the effects of a large drain upon the system—namely, those of debility. The individual loses flesh and nerve; the hands are often cold and clammy; the action of the heart is easily disturbed and irregular; sleep is broken and lessened; the appetite capricious, the tongue soft and indented from its pressure upon the teeth; food is not well assimilated; and the person complains more or less of debility and general wretchedness.

After a longer or shorter duration of these physical conditions, or in connection with them, the symptoms of change and derangement of the mind appear. The person is inclined to seek seclusion and shuns society, especially that of females; will not look you in the eye, prevaricates, deceives; has little of settled purpose, becomes depressed, and not infrequently exhibits a suicidal tendency. The depression, however, does not amount to melancholia, nor does the general appearance of conduct at all resemble that of a person affected with that form of disorder. This condition does not usually continue very long under the quiet, regularity, and publicity of asylum life, and is often succeeded by one of irritability, self-importance, and self-satis-

faction, a readiness to easily take offense, and quarrelsomeness. The patient is disposed to think he is insulted by attendants or patients or that he is neglected. He loses all sense of modesty, and is ready to talk of his disgusting habit, though he rarely openly practices it, as is sometimes the case in the excitement of maniacs.

CASE I.—The following case, E. A., age twenty-five, was admitted in July, 1884, and will illustrate some of the above-mentioned conditions. He is reported to have been so much of an invalid for years as to necessitate his remaining in bed much of the time; is of a neurotic temperament, and has been for several years excitable. About a year ago he began to have nervous twitchings of the muscles about the neck, of a choreic character, and a short time before admission began to express delusions of fear; thought efforts were made to poison him; that he was to be arrested, and he sought to leave home on this account and to secrete himself; has suffered from insomnia; endeavored to commit suicide once by hanging, and once by jumping from a second-story window. He has been a masturbator for many years.

After his admission he was somewhat incoherent, dull, and listless, and when he talked spoke in a rambling, meaningless way; was pale and anæmic; heart action irregular; hands cold and clammy; he became easily disturbed and excited, and inquired where he was. After two or three days a camisole was applied to prevent his masturbating and with good effect. He soon began to give indications of more mental action, and even requested that it might be kept on him; said that he had long been addicted to the bad habit, and desired to break it off; whenever the camisole was removed he was kept under close observation. After some weeks he again became excited, talked

incoherently, and often attempted to assault either the patients or attendants, was exceedingly vulgar in his language, and threw his clothing from the window. At other times he became "foolish and silly," and would laugh in a hysterical manner, and declaim in a loud tone about the hall. Occasionally he complained of a pain in his back, and this was blistered. He continued to wear a camisole at night for several months, which were passed in a condition of mind which was often changing, at times for the better, and again for the worse, apparently depending upon the control exercised over the vicious habit. He then improved more decidedly, and was removed to his home. Before going he wrote the following letter:—

March 17, 1880. Hall 4.

DR.:—

Dear Sir.—What follows you will see is entirely a private matter. I have been thinking a good deal, at different times, about having an operation performed to partly destroy my sexual organ. It seems to me there must be an unnatural amount of excitement there, which is entirely spontaneous and beyond my control. I think that it averages three times a week that I wake up nights with disturbances of this kind. As I told Dr. — I have been free from masturbation since the holidays, and was for some time before, and I intend to keep myself free from it in the future, but this spontaneous excitement continues for all that. I mean to have one of my stones taken out. I know that this is rather an extreme measure, but I would rather have that done than to be disturbed and distressed as I have been in the past. I think this excitement has something to do with my rapid circulation, and that the trouble in my back was caused through sexual excitement. I want to do everything I can to restore my health, and, unless this operation would be likely to destroy the sexual organ entirely, I would really like to have this done.

I remain yours truly,

E. A.

The operation, however, about which he writes so rationally, was not performed, and he went home, where in

a short time he again resumed the unnatural habit, became excited and confused; he began to appropriate property belonging to others, and was returned to the asylum, where after a few weeks he passed into a partially demented condition, in which he was often engaged in asking the most trivial questions and in writing meaningless communications. A camisole and vesication were employed to prevent his self-abuse, but they were only of temporary service, and after some months of mental vacuity he became comatose and died. This person had been physically ill for so long a period, in consequence of his habit before his mind became disordered, that there existed from the first little prospect of any permanent improvement.

Another case is under observation at the present time which will illustrate some different phases of the disorder.

CASE 2.—E. S. B., age twenty-three, has been a masturbator, according to the statement of friends, for more than five years, very probably nearer ten. Two uncles and an aunt on father's side have been insane. He has led a life of confinement for several years, and been engaged in study when he was not at work as a telegraph operator. It was reported that he had had a fair degree of physical health, but the mind had been disturbed for about a year and a half; that he had been in different portions of the country and in two asylums for short periods. At times he had appeared to be demented, and at others had delusions of apprehension, was irritable and moody, and refused to eat. When admitted the circulation was feeble and the expression of the countenance dejected and miserable; the tongue was coated, speech and gait slow and feeble, and his replies to questions very brief. Measures were at once adopted to improve his general health. He was compelled to take eggs, milk, and beef tea, frictions were applied to

the extremities, and after a few days he was taking an abundance of food.

A vesicating fluid was applied to the penis, which measure was reinforced by a plenty of earnest counsel; under the influence of such a course of treatment, carefully followed up, he soon began to show indications of improvement, and after a few months was able to write a connected letter to his father, and even expressed a desire to be employed about the institution; took daily exercise by walking, and did some writing. His improvement, however, did not continue. He again resumed his unnatural habit, fell off, became irritable, despondent, refused to take food, persisted in lying on the floor in the corner of his room, and submitted to the local treatment again, exhibiting no shame, and with apparent indifference. This indifferent condition was followed by a disposition to quarrel with everybody who presumed to differ from or interfere in any way with him. He would strike and kick and use the most vulgar and filthy language. He wrote to his mother that he had horns growing out on the top of his head, and at times his conduct was so coarse and brutish that such appendages might not have been inappropriate. At other times he would stand in his room or on the hall during hours if permitted and allow the saliva to run out of his mouth and down upon his clothes; refused to take medicines or try to help himself in any manner. His feet and hands became cold, the heart action weak and irregular. These conditions have been followed by periods of improvement, which have not been permanent; he has continually had relapses, until his prospects for any permanent recovery are about nil, though he has not yet become permanently demented.

One of the most remarkable cases of masturbation which

has ever come under my observation was in the person of a little girl six years of age. Her mother died before she was two years old. When my advice was sought in the case, she had not become technically demented, but still had lost control of herself in respect to this habit, and never had exhibited any true appreciation of, nor could she be made to understand, its nature. The case is of interest as showing, first, that the habit may arise without instruction from another, and may be continued even when the most stringent precautions are taken to prevent it; and, second, that it may begin at a period of life long before the sexual organs become fully developed, in a case where a neurosis has been inherited. In some respects it resembles those cases of children whose parents or grandparents have long been subject to the use of alcohol, and in whom a morbid appetite for some form of stimulant appears when they are very young.

Her stepmother brought her to me with the following statement: That more than a year before the parents had observed that the child was becoming emaciated, pale, and delicate, that she was inclined to remain indoors and did not care to play with other children. They became anxious, and carefully endeavored to improve her health by change of air and medicines. After a month the mother accidentally discovered the child in the act of masturbating. The evil effects of the habit were at once explained in the plainest language, and every effort made to dissuade her from its practice, even to whippings, but all to no purpose. She protested that she could not help it. Her hands were fastened, but in her childish simplicity she said her thighs would not keep still, and it was found that the excitement was kept up in this manner; her legs were then fastened together, but without any favorable result. She was

reasoned with and taken to a physician to be talked to by him, and finally he was requested to have his surgical instruments shown to her with a statement that unless she could overcome this habit it would become necessary to use the sharp knives in some terrible operation on her body. The result may be inferred by what she said to her mother after leaving the surgeon's office, and while holding her mother's hand in walking home: "Mother, those instruments did not look half as bad as I expected they would." The child resided in another State, and I have never been able to learn of what disease her mother had died, nor what became of the child.

Diagnosis.—Some of the symptoms of masturbational and pubescent insanity are similar. Indeed, these two genera are closely allied, both being primarily dependent upon a neurotic or highly impressionable nervous system, inherited or acquired; and yet the former may be differentiated from the latter, both by the general character of symptoms present and in the **course** and **termination** of each form.

The extent of physical debility and derangement of the different functions is greater in insanity of masturbation. In pubescent and adolescent insanity the mental depression and melancholia are more pronounced, while suicidal tendencies, hallucinations, delusions, coarseness, and vulgarity of language are rarely present. A religious state of mind, an avoidance and dislike of the other sex, a tendency to isolation, occasionally short periods of self-importance and conceit, with irritability and fickleness of purpose, are especially characteristic of masturbational insanity.

The **prognosis** in cases of insanity from masturbation is not usually favorable. The individual may be improved under the discipline and care of an asylum, and the mental activities become much more normal, but a relaxation of care

and discipline in my experience has almost always led to a relapse, and the second condition is worse than the first. As the predisposing element of causation consists in a neurosis which has been inherited, and as this has been developed in the large majority of cases during the sensitive periods of puberty and adolescence by the practice of the habit, the effects upon the brain become very profound and difficult of removal. In this respect the supersensitive and unstable condition resembles that which obtains in epilepsy.

Cases which have arisen in persons of a vigorous habit and stable condition of brain, by learning the practice from others, rarely become insane, and the vice is generally overcome by education and the progress of physical development.

Treatment.—The bromides serve largely to lessen the sexual excitement, and if used in connection with vesication of the prepuce or the camisole, or both these agencies, will control the morbid tendency in some degree, while the system has an opportunity to recuperate; but these measures cannot be followed up indefinitely, and whenever they are abandoned the old habit of excitement only too surely resumes its sway. The use of pins in confining the prepuce or other surgical treatment of the penis proves to be of no better service. Moreover, there always exists in these cases a demoralization of the moral element which does not pass away with the physical improvement, and no amount of instruction as to the absolute necessity of reform ever avails very much.

The individual may, under the power of returning reason, as in one of the cases detailed, be willing to suffer mutilation as a remedy, and yet not have the courage and grip of resolution to stand up against a resumption of the wretched

practice, and again returns, as the hog, to his wallowing in the mire.

One of the most efficient means of fortifying the will in its effort at reform, if there exists any, is **physical labor and life in the open air**. These conditions will tend to equalize the circulation and eliminate the nervous energy, or turn it into other channels. There exists no doubt that in the large majority of cases the long-continued practice has led to a super-sensitive or hyperæmic condition of the nerve cells or sexual centres of the brain, which may be akin to the condition of certain areas of the cortex in some cases of epilepsy or of chronic alcoholism. A condition of good feeling and self-importance exists at times in both these disorders, which is like that which is present in many cases of general paresis, though it is much less persistent, and is not so extreme. The long-continued and often-repeated excitement attending the practice finally so far weakens the brain that the condition of hyperæmia becomes chronic; it ultimately gives way to a failure of nervous energy, and the mind passes into a consequent dementia, toward which the large majority of such cases tend.

Some of the more favorable cases which occasionally come to asylums may be benefited by such measures as have already been alluded to, supplemented by the use of nux vomica, the hypophosphites, and iron. Any course of treatment, however, must be followed up for a long period, and then, if successful, the person may be advised to contract marriage.

LECTURE XXI.

EPILEPTIC INSANITY.

Epilepsy and Insanity—Characteristics of Epileptics—Tendencies to Mental Derangement—Responsibility of Epileptics—Epileptic Neurosis—Characteristics of—Symptoms of Epilepsy—The *Aura Epileptica*—Phenomena Attending It—Hallucination of Any of the Special Organs of Sense—A Case—Swedenborg—The Aura May Affect both Sight and Hearing—A Case—"Petit Mal"—Symptoms of—Age—"Grand Mal"—Symptoms of—Derangement of Mind—"Epileptic Fury."

Among the several neuroses one of the most, if not the most, influential in causing mental derangement is that of epilepsy. In fact, the epileptic and insane neuroses are so closely allied in character that they are interchangeable in their hereditary tendencies, and the offspring of parents possessing either of them may have the other. The leading characteristic of both is **instability of nerve tissue**. The one manifests itself in morbid sensibility and motility, and the other in morbid mentality, and the first not unfrequently passes over into the second. This passage is more commonly a slow one, and may cover a period of years, though in cases in which the convulsions are of a very pronounced character they may develop insanity early.

Esquirol found that two-thirds of the epileptics in la Salpêtrière were insane. Doubtless the larger part of these had been epileptic for a long period; certainly no such proportion of epileptics in this country would be found to be technically insane, especially in the early stage of the

disorder. Indeed, epileptics are not usually thought of as insane, and much less certified as such to asylums, until they present the most unequivocal evidence, which generally consists in marked mental deterioration, excitement, dementia, or the commission of some form of crime. The attention is almost exclusively drawn toward the physical phenomena which are immediately connected with the convulsive stage. These are so sudden, often so startling in character, and so overwhelming in their immediate effects, that they are observed by the general practitioner rather than the preceding or subsequent effects upon the mind. These latter, however, have been carefully observed by specialists, and epileptic insanity was one of the first of the etiological forms to be differentiated and described.

Epileptics tend to become changeable and uncertain in their mental states; very impressionable and impulsive; at times are irascible, morose, and untruthful; at other times, silly and good natured, or depressed and hypochondriacal. These various mental conditions may vary in all degrees of intensity. In many cases the subjects become merely harmless demented, while in others they become homicidal or suicidal maniacs of the most pronounced character. Probably there exists no form of mental disorder which is the immediate cause of more criminal acts, and many of them are of the most atrocious nature. A statement recently appeared according to which an epileptic, while in hospital, attempted to cut the throats of twenty-four patients who were in the ward with him with a razor which he had by some means secured. This form of insanity therefore becomes especially important from a medico-legal point of view. While, doubtless, no epileptic could rightly be regarded as responsible for acts in any degree connected with a convulsion, yet in the early stages there may

exist long periods during which the subject is quite capable of regulating his conduct according to the standard of right and wrong, the intelligence and will-power are not affected, and some may pass through life without giving indications of any marked derangement or dementia.* Nevertheless, the large majority do sooner or later experience serious lesions of the mind, and many of them find their way to hospitals, where they are found to be among the most troublesome class of patients. And even that class who do not reach asylums generally give indications of mental impairment, which consists in a dulling of the normal keenness of mental action, a warping of the judgment, a clouding of the memory, and a destruction of the higher and the finer sensibilities.

It was formerly customary to refer to the epileptic neurosis as something akin to genius. In evidence of this the names of epileptics who have given indications of great

* The mere fact, therefore, that a person has experienced at some former period of life occasional epileptic attacks does not of itself furnish sufficient evidence of irresponsibility. A man was recently tried in one of the courts of Connecticut for the murder of a woman to whom he had formerly been engaged to be married. It appeared in evidence that he had experienced one or two fits when a boy and before coming to this country. It also appeared that on two occasions after he was confined in prison he lost consciousness for one or two minutes. In his confession, however, he was able to state just when he formed the resolution to kill her, and gave as his reason that if he could not have her himself he was determined no one else should. As he described what he did after taking his resolution, to accomplish it, his going to the house in the night, climbing on some lattice-work upon the roof of an ell of the house, his creeping carefully to the window and removing a screen which was in it (the weather being warm), how he entered the room and, finding her asleep, struck her with a sharp knife which he had for the purpose, and the course which he took to escape, the court held that as his act was deliberate and in no way connected with or dependent upon impairment of mind, he must be regarded as responsible.

mental abilities have been adduced. The Turks even now regard the epileptic as one inspired, and never interfere with his liberty. This in former periods was customary among the Greeks. But a moment's consideration of the nature of the convulsion itself, causing by its violence a partial suspension of the normal physiological activities of the brain, points to the fact that if an epileptic gives indications of marked ability, he does so in spite of the neurosis, and not in consequence of it. It is certainly impossible to conjecture how a frequently recurring venous congestion of the vessels of the brain, with its resulting poison to the delicate tissue of the grey matter, could exist without serious modifications of this structure. Add to this, the spasm of the muscles of respiration and those immediately about the neck, of so profound a nature as to stop respiration and impede the circulation of the brain, thus producing extravasations of small quantities of blood or serum, with subsequent stupor, coma, and rigidity, and the surprise is rather that there should no sooner occur marked mental derangements.

It would seem, therefore, to be both reasonable, and in accordance with medical science, to assume that no epileptic, whose disease is of cerebral origin, should be executed, even if he has experienced during a considerable period attacks of the **Petit Mal** only. The repeated changes in brain activities, attended with loss of consciousness; sudden and dangerous impulses, hallucinations, and delusions, and such lines of conduct as cannot be predicated beforehand in any case from the previous character, and which may be traced in such persons, rather indicate seclusion in some hospital with medical treatment, than infliction of punishment as upon a criminal.

Why a stimulation applied, either directly or indirectly,

to certain regions of the motor sections of the cerebral cortex and the medulla oblongata should eventuate so diversely in different cases, in the character of the mental symptoms, is not quite clear, but it is probably due, in the first instance, to the differing degrees of susceptibility of brain tissue, or hereditary tendency, the degree of spasm and consequent congestion, and possibly to the sectional areas of the cortex which may be affected.

Symptoms.—Among the many remarkable phenomena connected with epilepsy one of the most interesting, from a psychical point of view, is the **aura epileptica**. It is not always present, or, if so, not sufficiently definite in its manifestations to be recognized by the subject. It is, however, generally present in more than one-half of the cases observed, and may indicate its presence in various ways. One of the most common is that of a sensation as of the blowing of the wind, or of the warm breath of another person, upon some localized area of the skin, or there may be a slightly painful sensation commencing in one of the toes or fingers, passing up the limb and the body, until it reaches the head, when the subject, who has been conscious during the very short time in which the movement of sensation has been transpiring, suddenly loses consciousness and falls to the ground. Then commence the usual convulsive movements which attend, or rather which largely constitute, the fit. The subject may be able to call out when the aura commences that it is coming and appeal for help, or he may run around the room or across the street seeking it. The abnormal sensation may commence on almost any part of the body, face, or neck, and sometimes in the stomach or bowels, in which case it causes vomiting, but in whatever locality it may arise the subject is conscious of a sensation of movement toward the brain.

There may be some unusual sensitiveness of the locality, but more often there is nothing unusual, though cases are reported in which the subsequent convulsive movements have been averted by applying chloroform or camphor to the spot when it has been definitely located. In many cases, especially during the early stages of the disorder, the aura may end in merely a temporary partial unconsciousness, and the subjects again resume work, being hardly aware that anything unusual has occurred, or they may repeat some formula of words, all the while laughing.

It is remarkable that persons do not appear at the time nor subsequently to have fears of being injured while passing through these experiences. Trousseau tells of a carpenter in whom the aura passed into excited and rapid movements from one place to another. When he was attacked he would run over the lumber and shout for a few seconds, and then resume giving orders to his workmen as if nothing unusual had occurred. He was never deterred from going on to high buildings and into other exposed and dangerous situations, as he must have been had he been entirely aware of the danger to which he was exposing himself, but, curiously enough, he had never experienced the aura while in the more exposed situations. The necessity existing for alertness and concentration of attention doubtless stimulated the inhibitory centres of the brain, and this served to avert an attack.

This sensorial derangement may be converted into a **hallucination of any of the special organs of sense**. Such a case was in the Retreat a few years since. He stated his experience to me very clearly, after his admission, as follows: One night, a few days before, and when his wife was absent from home, while sleeping he suddenly became conscious, and, on opening his eyes, he distinctly

saw the face of one of his neighbors, with whom he had formerly some unsatisfactory business relations, and who, he said, did not sustain a very good character, looking at him from behind a rocking-chair, which was standing at some distance from him in the bed-room. He said that he saw the face with as much distinctness as he ever saw anything, and at once concluded that the man was there for the purpose of robbing him. He jumped from the bed and stepped to a shelf near by, seized a revolver, shot at the individual, and then went to examine to see whether he had killed him. When he found nothing he concluded that he had seen a vision, and returned to his bed, but did not sleep any more during the remainder of the night. Dr. Hammond mentions the case of a lady patient of his in whom the period of unconsciousness was invariably ushered in by the appearance of a white cat coming into the room toward her. In other cases the optic and the auditory nerves become excited, and persons perceive luminous bodies floating in the air above them, or golden cities with shining gates of pearl and walls of jasper and amethyst, and all manner of precious stones. Again, they hear the singing of the heavenly hosts. One of my patients used to insist that, at times in the night, he heard the singing of the redeemed in Heaven, and on other occasions he could, with equal distinctness, hear the groans of the lost in Hades.

Swedenborg evidently experienced hallucinations of general sensations like an aura. He writes: "I was astonished, having all my wits about me and being perfectly conscious. The darkness attained its height and then passed away. I now saw a man standing in the corner of the chamber. As I thought myself entirely alone, I was much frightened when he said to me: 'Eat not so much.' My sight again became dim, but when I recovered I found

myself alone in the room." On another occasion he says: "I went to bed. * * * Half an hour after I heard a trembling noise under my head. I thought it was the tempter going away. Immediately a violent trembling came over me from head to foot, with a great noise. This happened several times. I felt something holy over me. I then fell asleep, and at about twelve, one, or two o'clock the trembling and noise were repeated indescribably. I was prostrate on my face, and at that moment I became wide awake and perceived that I was thrown down, and wondered what was the meaning. I spoke as if awake, but felt that these words were put into my mouth," etc., etc., etc.

I was recently consulted by a young man in whom the aura appeared to affect **both general sensation and those of sight and hearing.*** He said that for several months he had at times been aroused in the night by the sensation of something being blown upon his face. It appeared to him that it was chloroform and that it came from the transom over his bedroom door. He had been so much disturbed and annoyed by this that he had changed the location of his bed in the chamber, and also had hung a screen to ward off the effects which he was confident were produced by some person outside his door, for the purpose of rendering him unconscious. He said that after the process of blowing had continued for some time, he could hear the footsteps of some one coming along the hallway outside and passing to another door as if to try to open it. At other times he could hear somebody at the window endeavoring to come in. He said that it appeared to him as if the phenomena lasted for an hour or two, and then it would end by the party outside making some sudden noise, like "Oh, yes; oh,

* Case referred to at length on page 102 *et seq.*

yes," or "Get out! Get out!" and all would be quiet, and he generally repeated the words over in a loud tone to let the party understand the situation inside the chamber. He said that he would then find himself bathed in perspiration from the effects of the terrible strain through which he had passed while he was being suffocated for the purpose of robbery. He could, however, immediately turn over on his other side, and soon go to sleep for the rest of the night, and generally felt well the next day. These experiences became so much of a reality to him that he procured a pistol, which he kept under his pillow each night. His suspicions centred upon persons residing in the house, and he consulted a lawyer about bringing a suit against them. This led to advising him to consult his physician, who brought him to me. In this case there existed hallucinations of general sensation, smell, and hearing, and on at least two occasions hallucinations of sight, as he explained to me that he distinctly saw upon awaking the room lighted up. The aura in this case did not probably pass on to the development of the convulsive stage, nor did he become wholly unconscious as far as he was aware, and it is quite certain that the duration of his peculiar experience did not continue long, if it did more than a few seconds.

Dr. Wilkes* relates the case of a man who about two years before experiencing any fits "distinctly saw a number of soldiers with rifles, commanded by officers, drawn up to execute him. He could hear their voices and distinguish the details of their dress. This continued about an hour before he became unconscious." On several occasions after the patient began to experience fully developed attacks of epilepsy he had precisely the same character of hallucina-

* "Diseases of the Nervous System," by Samuel Wilkes, M. D., F. R. C.

tions affecting the sight. Subsequently the aura passed into a disturbance of the motor system, which would continue for some time after the loss of consciousness before he fell down.

In some cases the subjects become **depressed** and **very irritable** for two or three days before an attack. Such a patient has been under my care for several years. By the use of the bromide treatment fits may be prevented, but after a time she becomes exceedingly irritable and difficult to manage. By discontinuing the medicine for a short time she experiences a sudden explosion of nervous energy, becomes greatly excited and pugnacious, and then passes into a fit. She often has several with but a short interval between them, and then without any preceding aura. In other cases patients may become excitable, loquacious, and happy, or simply dull, with a loss of memory during a short period before experiencing a fit.

Again, patients may become **unconscious** and **not fall** or pass into the **convulsive stage**, but remain in a condition similar to that of a somnambulist. They walk about the room where they may chance to be with eyes open but apparently without sight. A female patient was in the Retreat for several years, in whom this peculiar manifestation of the initiatory element of a convulsion never appeared until after a trial of treatment with the biborate of soda. This drug certainly greatly modified the character of the disorder. She had very few fits, but in the place of them she experienced the tendency to walk about the hall in an unconscious condition. She never could recall anything that she had seen or done during the continuance of this peculiar stage, but used afterward to express some anxiety lest she should have annoyed others. During the continuance of the walking there appears to be enough automatic

action of the spinal cord to develop locomotion, and yet not enough to rouse the cortex of the brain into such a state of activity as seems to be essential to consciousness.

In other cases still the aura is not succeeded by the convulsive attack which constitutes the fit, but instead the subject **becomes intensely excited before, and while passing into a condition of unconsciousness, and also homicidal.** A case is reported by Maudsley * of a person who while in the fields, seeing another asleep, was suddenly overwhelmed with an impulse to destroy him. He seized a stone and, dashing it against the head of the sleeper, killed him at once. He then fell down beside him in a stupor, where he remained until found by some one passing. He was afterward brought to trial and found to be a confirmed epileptic. He was sent to an asylum, and after having nearly succeeded in killing an officer or attendant while there, finally escaped and was never found. Another case is reported by Marc, that of a shoemaker, who while at work in his shop saw one of his children, a girl of ten or twelve years of age, come in, and he immediately seized a knife and began to cut at her neck. He afterward declared that he had no recollection beyond seeing the child come into the room. Then "it rose into the air like the strong smell of marjoram. It passed through the room and over my head like the rays of light."

The peculiar characters of the epileptic delirium after consciousness is lost assumes **two principal forms**, which have been characterized by Falret as the "**Petit Mal**" and the "**Grand Mal**."

The first of these is attended with more or less confusion of mind, in which consciousness may or may not be wholly

* "Responsibility in Mental Diseases," page 168.

lost. The mind is in a condition of partial activity, and the innate tendencies of the individual suddenly rise into activity. Whatever of bad or good impulses have hitherto been predominant in the course of life, now become imperative in action, while the subjects find it quite impossible to fix the attention upon anything definite. They sometimes become violent, or, what is more common, repeat over some words or sentences. There is a patient in the Retreat, at the time of this writing, who generally attends the chapel exercises regularly and has never during several years experienced while in the chapel a **grand mal**. She, however, not unfrequently has a **petit mal**, the symptoms of which consist mainly in a slight turning of the head to one side and a repetition of a few words. These words generally consist of a declaration that she will or will not do this or that, and generally the thing which she will or will not do is something about which she has been possibly a little excited before coming into the chapel.

Cases are reported in which, after the loss of consciousness, the subjects have, when in a semi-dazed condition, set fire to buildings or have appropriated articles belonging to other persons. M. Legrand du Saulle reports that one of his patients, during several times a year, experienced an aura which began in the stomach and passed to the head, after which he lost consciousness. When regaining it, he generally found himself in jail or in prison, and with a considerable number of articles about him of which he could give no account and which belonged to other persons.

Other subjects become dominated with the delusion that they are surrounded by enemies who are seeking to injure them. They hear voices commanding them to perform some special act, and under the control of such hallucinations may burn buildings, commit homicide or suicide.

These impulsions are generally characterized by details of actions which are of a very horrible and revolting character.

The petit mal may occur in subjects of any age, but is more common in young persons, or in those who have for many years been subject to epilepsy. It may exist alone or in conjunction with the grand mal. In the latter case, there is no regularity of succession in the two forms. The form likely to occur cannot be foretold with certainty, though the petit mal more generally follows the occurrence of one or several attacks of the grand mal.

It has already been stated that the aura is not always present in epileptic attacks. This is generally the case in attacks of grand mal, which are especially characterized by suddenness of occurrence. The subject is not forewarned, but immediately passes into a stage of convulsion and falls, or he may become unconscious without falling. These attacks are also quite alike in their general features in each case, differing in this respect from the petit mal, in which no two consecutive attacks are often quite alike. In the case of grand mal, therefore, the attendant knows what to expect, and generally can anticipate with some precision the degree of intensity likely to develop, and what particular muscles and parts of the system will be convulsed, and with a considerable degree of accuracy how long the convulsive movements are likely to continue. The sequelæ in the way of mental symptoms may also be anticipated more perfectly. If they had been those of violence or dangerous fury in one or two of the last convulsions, it is very likely to be so afterward, and preparations must be made accordingly. The muscular excitement rarely continues longer than a few minutes and generally ceases quite suddenly, though consciousness does not immediately return.

Passing over now without further detail the characteristic physical conditions which are present during the convulsive stage, and which will be found fully described in all systematic treatises on diseases of the nervous system, we come to observe the mental states which immediately succeed the fit. These may present any one of several characters, but in nearly all cases there results a more or less marked **derangement of the intellect**. Generally there is present a slower mental action than is normal to the individual. The brain is in a condition of torpor, and the ideas which arise into consciousness are in a confused and half formed condition. Replies to questions come slowly and words are imperfectly enunciated. The answer may be correct, and indicate that the inquiry has reached the intellectual centres, and has been interpreted with more or less accuracy, and yet that it has failed to rouse the mind into a full state of consciousness. This dull and semi-appreciative condition may continue for a few hours only, or remain for several days. The period of time appears to bear some relation, in duration, to the severity of the attack. During the early period of this condition of mental hebetude, the patient lies with eyes closed, giving no attention to inquiries addressed to him, and yet may be frequently repeating over some words or the name of some person, while in other cases there may be no indications whatever of brain activity.

Again, instead of this condition of partial mental activity, there may suddenly appear what has been termed the "**epileptic fury**." The patient displays the greatest destructive and reckless violence in his movements. He becomes intensely homicidal or suicidal, and strikes out in every direction, utterly regardless of who or what may be near by and likely to be injured; he may throw himself

against the walls of his room or out of the window; he may seize and break in pieces every article of furniture in his room on which he can lay hands. Persons who, in the ordinary conditions of the nervous system, are by no means powerful, when in this state become so strong as to require the assistance of several persons to control them. They are very likely to tear their own clothing and that of those who try to control them into shreds; and they may soil their clothes, beds, or rooms, in the most disgusting and filthy manner. While in this state it becomes quite impossible to determine with any degree of accuracy the state of the pulse or the temperature of the body, but the congested state of the vessels of the face and the head, the full and staring look of the eye, indicate an increased quantity of blood in the vessels of the brain.

This epileptic excitement rarely continues longer than a few hours, or at most a few days. The person gradually becomes quiet, and soon passes into his usual state of mental activity, but has little or no definite realization of what he has done while in the state of excitement.

LECTURE XXII.

EPILEPTIC INSANITY (CONCLUDED).

Tendency Toward Dementia—Loss of Memory and Judgment—Case of Napoleon—Religious Emotions in Epileptics—Amorous Propensities—Religious Excitement—Dancing Mania—Acts of Great Violence May or May not be Connected with Convulsions—Two Cases—Homicidal Violence—Cases—Prognosis—Pathology—Treatment.

The general mental condition of epileptics may be regarded as one tending toward dementia. There have been, and probably are, exceptions to this rule, continuing for a long time. In cases where the convulsions occur but rarely, and with months intervening between them, in consequence of the inoperative state of the exciting cause, the mental impairment will be very inconsiderable, and perhaps not observable by those most familiar with the subjects; but the failure in mental power manifests itself sooner or later and is irremediable. It is especially observable in the faculties of perception, memory, and also the judgment, which depends so largely upon the first two. Moreover, the failure of memory relates not only to what has recently occurred, but extends also to those experiences which have been registered many years. These are recalled at first with some unusual effort, and ultimately seem to utterly fade from the mind, which in its ordinary operations is dull and apathetic.

It has been stated that Napoleon was subject to epileptic

attacks during or after sexual intercourse. Cæsar is reported to have been an epileptic. If these statements are true it would account for the failure of their intellectual faculties during the latter part of their lives and before they had passed into the senile period. There can be no doubt that Napoleon gave evidence of impairment of perception, rapidity of mental action, and also soundness of judgment during the last years of his reign, and at that period of life when it is common to have a higher intellectual capacity than at twenty-five or thirty years of age. Romberg goes so far as to say that many males are subject to epileptic attacks either during or after coitus. Esquirol also refers to such cases.

Many writers have drawn attention to the fact that religious emotions play a large rôle with epileptics. Dr. James C. Howden, in the *Journal of Mental Science* for April, 1887, has given several very interesting cases of his own. Some of these persons thought they were commissioned to save the world; others that it was their mission to kill Satan; another that he was the Almighty; and another still that at times he was Christ, and at other times that he was the Devil. While in the epileptic trance they had the experience of visions and revelations which seemed to come to them from Heaven. Dr. Howden states the case of a boy whose mother was an epileptic, who, some time after experiencing a fit, became subject to delusions, which continued for a longer or shorter period, and exhibited strong amorous propensities. Among other delusions he claimed that he was Adam; that, of course, he could not recall all the particulars connected with his experience while living in the Garden of Eden, but that he partook of the forbidden fruit, and in so doing did as any one else would have done under the circumstances. He claimed that he

had been in Heaven, and described the scenery there as being quite like that of some parts of Canada. His delusions were always those of a religious type, and often very extravagant. Thinks at times that he is Adam, at others that he is Christ, and again the Devil. He claims that these things have been revealed to him.

Hecker, in referring to the dancing mania of the fourteenth century, says "that while dancing they neither saw nor heard, being insensible to external impressions through the senses, but were haunted by visions, their fancies conjuring up spirits whose names they shrieked out." "Others, during the paroxysms, saw the heavens open, and the Saviour enthroned with the Virgin Mary, according as the religious notions of the age were strangely and variously reflected in their imaginations. When the disease was completely developed the attack commenced with epileptic convulsions; those affected fell to the ground senseless, panting and laboring for breath. They foamed at the mouth, and suddenly springing up began their dance amid strange contortions." Religious excitement and tendencies appear to be most frequently associated with the petit mal and to arise when the epilepsy has been produced by some shock to the moral sensibilities of the subject. It is also more frequently attended with hallucinations of sight and hearing, and in some cases with vertigo.

Epileptics not unfrequently exhibit acts of great violence which are not immediately connected with convulsions of either form, and these acts may be the outgrowth of premeditation and careful planning, in consequence of some imaginary insult, or the denial of a request, and, again, from the effects of hallucinations. A marked example of this was the case of the epileptic who murdered the Superintendent of the hospital for the insane at Avignon.

The patient said that he had during several days heard voices, which appeared to come to him from a distance, telling him that "if he did not kill the physician he would be unhappy for the rest of his days." During the early part of the day he went to the workshop, and lay in wait for the doctor in the vicinity of his office. Not finding him as he expected, after waiting for some time he inquired of an official if the physician-in-chief had, as yet, come to the hospital, at the same time saying that he was ill and desired to see him. When informed that the doctor had already arrived, and was visiting in the wards, he went to the door of the office and stood by himself, assuming such a position as indicated that he was in pain. While standing thus his right hand was thrust under his vest. When the doctor arrived, he at once called his attention, asked for medical assistance, and when being examined, suddenly threw his left arm about the doctor's chest, and with his right, stabbed him in his breast with the blades of a large pair of scissors which had been fastened open by tying them firmly with a handkerchief. The doctor lived but a short time, and the patient became excited and furious. Afterward, and while in a condition of sufficient reason to appreciate what he had done to one for whom he had much affection, he experienced great grief and remorse. At other times, and while under the influence of homicidal impulses, he expressed no regret and would try to justify his act.

Another case, quoted by Echiverria, *Journal of Mental Science*, April, 1885, illustrative of the violence of epileptics at times when they had not recently experienced fits, but in consequence of an excitable and disordered condition of the brain, has been related by Legrand du Saulle: "The 28th of January, 1868, in the afternoon, the soldier K—— was committed as a lunatic to the asylum at Marseilles.

He was an epileptic, but unknown to be so in his regiment, and on his admission suddenly declared that he would not work, threatening his keeper with his fist. On this account he had to be transferred to the division for agitated patients, where he met with another epileptic, B——, relatively quiet and without the strait-jacket. K—— and B—— confided to each other their respective griefs, and decided to revolt against any who should endeavor to restrain them. Thereupon they each pulled out an iron bar from the window, and armed, with it, started, first knocking down one of the keepers, and then a second who came to his companion's help, fiercely crushing the skulls of their cadavers. They then directed their steps toward the entrance of the asylum, brandishing their iron bars; but finding the doors closed, they returned to search the pockets of the keepers for their keys, and with them passed out into the adjoining division, where they were at last disarmed, overpowered, and secured with the greatest danger to the officers of the asylum. Shortly after this horrible scene K—— declared himself to be unhappy, cried desperately, pretended that he felt annoyed, that he suffered from stomach-ache, and wanted to see his mother; then he became again furious, uttering threats of death, and trying to assault his keeper who brought him his meals. He told the presiding magistrate and the *Juge d'Instruction* that he had seen flames before his eyes; that he heard voices speaking of murder; that he thought they were to kill him; that the keepers were truly dead, and that they would not resuscitate, as he saw their brains spatter on the floor.

"As to B——, he ran into a state of great prostration. He remembered receiving the iron bar from K——, but did not recollect what had happened afterward, and learnt with the coolest indifference the death of the attendants."

These cases illustrate as well as a larger number how suddenly, under exciting conditions of any kind, the brain of the epileptic may become not only violent and dangerous, but bereft of all power of inhibition. In the first case epilepsy had not been suspected, and the second was entirely quiet, until brought into contact with, and influenced by, the first. In both cases consciousness of what was being done seemed to be entirely in abeyance. This is distinctly characteristic of epileptic violence, and in this respect the epileptic differs from other insane persons who experience sudden fits of impulsive violence.

For instance, in cases of homicidal mania the patient, though impelled by an irresistible impulse, which comes over him more or less suddenly, yet does not lose his consciousness, but is quite aware of what he has done, and may be able afterward to describe the *modus operandi* of its accomplishment: this is not the case with the insane epileptic; all is a mental blank while the act has been taking place.

The following cases will illustrate some of the more distinctive and characteristic symptoms and conditions of epileptic insanity as well as any I can select from my notes.

The first case is one with marked imperative conceptions, and with very considerable mental impairment.

J. C. Y., age thirty-six, English; father was intemperate, his mother an invalid for many years, and his sister had a feeble organization; worked hard while quite young, and at the age of eighteen had dyspepsia, which continued several years. He was affected with hypochondria, was unduly exercised on religious matters, and a number of religious delusions appeared to slowly develope in his mind. He heard voices, and had his mind directed by them to objects and persons about him; for example, while walking in the street he would hear a voice saying, "You are,"

and immediately his eyes would rest on some sign containing the word necessary to complete the sentence, as "rich;" also saw words on the sidewalk, where there were none. He does not speak of having on these occasions experienced the usual sensations attending an aura. Later he became so reduced as to require treatment, and was benefited to some extent, but his former hallucinations returned, and others with them. He thought he was guilty of the sins of others, and was annoyed by the voices in distress, had gloomy thoughts, and felt as if he had no friends in the world. He traveled about in the hope of relieving his mental suffering, but without much avail. He continued in this general mental and physical condition during several months, when he began to have modified epileptic attacks. He took a voyage to England, but the passage did not apparently agree with him, and while there he had more severe seizures than he had had before.

He soon returned to this country and was admitted for treatment. His mind became enfeebled, his appetite indifferent, but his bodily health did not seem greatly impaired. He had frequent epileptic seizures, and in one of them he fell down stairs without any apparent injury. He continued to refer to his hallucinations of hearing; was capricious and changeful in wishes, likes, and dislikes; became confused and irritable and struck other patients. He had from two to five convulsions a day for a year, which were often attended with vomiting; his diet was then greatly restricted, and he had a less number, and even went two or three days without having any. After an experience of some time in the use of the restricted diet and medicines, he began to lose flesh, and continued to do so until it became necessary to his physical health to increase his food, and he gradually returned to his usual diet. During

this period he had not more than one-fourth the number of seizures he had formerly, but he was irritable and often in trouble with his attendants or fellow patients, and used to make frequent assaults upon them. After he resumed the use of an increased amount of food, the epileptic seizures increased; his mind at this time is becoming more feeble, and all hope of a permanently better mental condition has been abandoned.

CASE.—E. R., age twenty-three, single, has a common-school education and resembles her father both mentally and physically. There are no other cases of epilepsy or insanity in the family, but she has a sister who formerly had chorea. Patient has a nervous temperament, was studious, fond of books and school, and had a mild and tractable disposition before the advent of epilepsy. The convulsive attacks began at the age of thirteen; at first just before the first menstrual period, but since without any periodicity. She has become more petulant and irritable, and of late the convulsions have become more frequent. The physical health is now impaired and the mind much enfeebled. She has shown violent impulses, throwing articles at others when irritated, but has never attempted suicide or self injury. Generally she is careful and tidy in her personal habits. Of late she has become more feeble, is emaciated, voice is hesitating and jerky, hands are cold, appetite poor, digestion weak, and she does not sleep well. She has no paralysis and no fixed delusions, but at one time thought her hands were on wrong.

When this patient was admitted there was nothing peculiar about her case. The convulsions rather increased in frequency, while the mental condition suffered progressive deterioration. About two years ago a new feature was developed. On the approach of a convulsion there seemed

to be a gradual loss of consciousness ; the patient, uttering a scream and springing forward, would run down the corridor at the height of her speed, pursuing an erratic course, colliding with obstacles, and finally pitching forward, would strike her head violently against the floor, the furniture, or the wall. This has resulted in many severe cuts and bruises. About six months since the attacks resumed the former character of epileptic seizures. The patient is now in a state of almost complete dementia.

In the above case the epileptic attacks commenced at the pubescent period of life, and it will be observed that the form of mental disturbance is in some respects like that which arises in pubescent insanity. There was no very marked excitement at any one time ; but, on the contrary, a condition of mental activity bordering upon stupor, which continued during considerably long periods. The most of the excitement was for a short period prior to a seizure, and then she was rather irritable and petulant, then excited. Indications of marked dementia appeared much earlier than in cases where the epilepsy begins at a later age.

Prognosis.—This will depend, as in some other forms of insanity, upon several factors, the chief of which are the degree of inherited tendency and the length of time during which the disorder has existed. Statistics indicate recoveries in about twenty per cent. of those admitted to asylums. These recoveries are more likely to be of short duration than those from some other forms of insanity, inasmuch as the cause is rarely permanently removed. The return of the patient to his home is generally attended not only with an irregularity, or a total discontinuance of the use of the medicine, but also with such conditions of living as are quite certain to produce irritation, disappointments, and conse-

quent excitement of the brain, which soon induce a return of the fits and mental derangement. Such a case is in the Retreat at the time of this writing. He has been a patient on two former occasions, and his residence at the Retreat has not extended during either of them beyond three months. He has been treated with medicine regularly administered and has followed a regular system in the daily details of life, the favorable effects of which became apparent in a short time. When he returns to his home and family all this is reversed; his medicine is neglected, friction in his employment occurs, and the brain soon resumes its morbid habit of activity. Such experiences often occur in patients who have temporarily recovered from the mental derangement of epileptic insanity.

Pathology.—Authorities are generally agreed that the pathology of epilepsy is not yet fully understood. The same statement may be made in relation to that of epileptic insanity. Nor is it clear why in some cases either form of the convulsive stage should develop marked mental disorder, while in others no such results follow, at least for a long period. It is, however, quite certain that during the early stages of the disorder no distinctive pathological changes have been found by post-mortem examinations which would account for insanity. If any causal indications aside from the results of injuries, tumors, etc., are noticed they generally pertain to an abnormal conformation of the skull and the face. Again, it is true that after the disorder has existed for several years there occurs dilatation of the blood-vessels, together with hypertrophy and induration of certain portions of the cerebrum, more especially in the connective tissue. These conditions, however, are more commonly found after the experience of the grand mal. It is in this form that the repeated pressure

of the blood-vessels, and the large quantity of blood so long contained in the brain, produce serious effects upon the brain tissue, and also upon the mind, often ending in dementia.

Dr. Crichton Browne, in giving the results of 64 post-mortem examinations at the West Riding Asylum, says it was found that the skull frequently becomes thickened, and when it is removed the brain expands, as if relieved from pressure, and feels hard and dense when incised. He found that the specific gravity was also greater than that pertaining to the brain in other forms of insanity. The convolutions were flattened, and the sulci had nearly disappeared.

In cases of very long standing, and especially in those in which the subjects have become demented, there is generally found a marked degeneration of the nerve cells and a diminution of their number; the convolutions are diminished in size and the whole brain is atrophied. In some cases there are found adhesions of the pia mater to the eminences of the convolutions, indicating, as in general paresis, former inflammatory processes. As injuries of the brain are among the more frequent causes of epilepsy when occurring in youth, we not unfrequently find the indications of such injuries in the form of spiculæ of bone, or tumors, or degeneration of tissue of different forms, both in the grey and the white substance.

Treatment.—The treatment of epileptic insanity is that of epilepsy, plus regularity of daily life, and the element of moral management. The treatment of epilepsy itself is still certainly largely empirical. It is true that by the free use of certain drugs the fits may, in many cases, be greatly modified in character and lessened in frequency, but why

such results follow the exhibition of the drugs we are wholly in the dark. Sometimes a change in diet, or the disuse of certain articles of food, or the diminution of the amount taken, will be followed by a lessening of the number of the fits, while in other cases no such results follow, and an opposite course of a more abundant diet will act favorably. Similar remarks can be made in reference to the use of mineral tonics, several of which were in high estimation several years ago. I have most certainly seen favorable results follow the use of zinc, which was very frequently prescribed in past years. *Nux vomica*, arsenic, and iron are all of service in an anæmic state of the system, whether attended with epilepsy or not, and they are often indicated in epileptic insanity.

Since 1857, however, the medical treatment of epilepsy has consisted largely of the use of bromide of potassium, and its allied salts, which have been regarded almost as a specific. In that year Sir C. Locock first brought the use of this drug in epilepsy to the attention of the profession in Great Britain. Its prescription very soon became general, and though it has never proved all that its early advocates hoped and claimed for it, yet it has proved to be of vastly greater service in lessening the number of fits, and also in modifying their character, than any or all other drugs together. During many years I have been in the habit of combining it, when it is desirable to continue its use for considerable periods, with the bromides of sodium and ammonium, and also in some cases with zinc and iron. The depressing effects of the continued use of the bromide of potassium may be largely averted by its combination with these other salts, and when zinc or iron is used with them very little unfavorable effect will result. I now

have two cases under treatment which have used these remedies several months without unfavorable physical effects and have been entirely relieved of fits.

It should be borne in mind, however, that it is not desirable in all cases to stop the fits entirely. Some patients complain of feeling very uncomfortable when a considerable period has passed without their occurrence, and say that they are relieved for a time after one has occurred. I now have a patient, who, although too much demented to understand, and much less to express, her disagreeable sensations, yet always becomes greatly irritable, unhappy, quarrelsome, and impulsive when a certain period has passed without the occurrence of a fit. The medicine is then discontinued until she has had two or three, and then is resumed again. By this means both the patient herself and the attendants are relieved of much suffering, annoyance, and care.

By the use of this combination of the bromides, many cases, in which the cause is not of an organic or an inherited character, may remain well during long periods, and some for life. The fits, however, may recur after the absence of many years, and consequently it is not safe to be too positive of a cure. I am confident that the use of the bromide of potassium alone in large doses tends to produce a weakening of the nervous system and also of the mind, and that it should never be recommended. As I have already intimated, these effects may easily be avoided by additional drugs and food.

The importance of regularity in the daily habits of life, in the use of food, and of sleep, cannot be over-estimated. The same may be said of the moral management of these patients. The largest care should be exercised in avoiding all causes of excitement. Patients are so sensitive to their

environments, and are so readily affected by all untoward influences coming from any source, that they require special attendance at all times by those who have the requisite training and skill. This is especially important before and after the occurrence of fits.

The great success which has attended surgical operations of the brain in recent years, in consequence of after-treatment by the aseptic method, renders it probable that cases of epilepsy may be relieved by such measures, when arising from some forms of organic growths, the pressure of foreign substances, depressed bone, etc., and asymmetrical developments of the skull. Many cases with favorable results have already been reported.

LECTURE XXIII.

ALCOHOLIC INSANITY.

Physiological Effects of Alcohol—Modification of—Per Cent. of Alcoholic Insanity—Statistics—Acute Alcoholic Insanity—Symptoms—Illusions—Hallucinations—Attention—Temperature—Termination—Examples—Treatment—Chronic Alcoholic Insanity—Symptoms—Irritability—Insomnia—Loss of Memory—Paresis of Muscular System—Suspicion—Hallucinations—Cramps—Hyperæsthesia—Gastritis—Epileptiform Seizures—Delusions—Examples—Pathological Anatomy.

Physiological Action of Alcohol.—The physiological effects of the continued use of alcohol upon the human system are doubtless of the same general character in all cases. It becomes rapidly absorbed into the circulation, and by it is carried at once to those portions of the brain which are more especially concerned in the processes of thought. It speedily acts upon the vaso-motor system of nerves, and thus indirectly stimulates the action of the heart. Its influence is also communicated to the capillary vessels of the grey substance of the brain, causing a dilatation, and when its use is long continued a consequent exudation upon the delicate membranes and into the interstitial tissues. It indirectly excites to abnormal activity the nerve cells of the cortex and thus increases mental function. This increase of function is succeeded by a corresponding diminution after a longer or shorter period, accompanied by a lessening of the temperature of the whole body.

Modification of its Effects.—The effects of alcohol vary in some degree in different cases, and are more pronounced and permanent in some persons than in others. Not unfrequently a small quantity when used by a person of a sensitive and sanguine temperament, especially if accustomed to a sedentary life, has a much more profound effect than a larger amount used by one of lymphatic temperament who leads a life requiring him to be much in the open air. Persons inheriting any of the neuroses are much more susceptible to its influence, which may manifest itself in an impairment of the moral and intellectual faculties, and in the development of a craving which may remain through life.

The effects of alcohol, when taken in the form of beer or some of the lighter wines, are much less pronounced than those resulting from the daily use of whisky or brandy. In the one case it is combined with certain materials of which the physiological action upon the stomach may be highly favorable, and may aid in the more speedy elimination of the alcohol from the system, while, in the other, the effects upon the vaso-motor nerves are more direct, and remain for a longer period upon the elements of the nervous system.

Some combinations of alcohol also affect the system more unfavorably than others, those rich in carbon and hydrogen having the least toxic effect. Persons before the age of twenty, and while the brain is more sensitive to unfavorable influences, and has less of inhibitory power, are more largely affected than those in later life; a special diathesis may become established which renders all successful effort to reform much more difficult, and in the large majority of cases quite impracticable. In many such cases the need of reform is not realized, and consequently there exists no

desire for it. It is from this class that many of the dipsomaniacs come.

Per Cent. of Alcoholic Insanity.—The number of cases of insanity which are caused by the abuse of alcohol varies considerably in different institutions and countries; while in some the admissions which can be traced to this cause do not amount to more than five or six per cent. of the total, in others it stands as high as fifteen or twenty. In some countries it is thought to be affected by the facilities afforded for procuring alcoholic beverages. The statistics of American asylums indicate that from ten to twelve per cent. of admissions can be traced either directly or indirectly to this agent as a cause.

At the meeting of the International Congress of Alcoholism in Paris, July, 1889, M. Ivernes, Chief of Statistics at the French Ministry of Justice, read a paper on the "Relations Existing Between the Increase of the Use of Alcohol and the Increase of Insanity and Criminality." From this paper it appears that "statistics very plainly show that there is an increase of crime in direct proportion to the increase of alcohol taken by each inhabitant. In France, from 1873 to 1887, the average annual quantity of alcohol taken by each inhabitant was 2.72 quarts, making a total increase of 29 per cent. in amount consumed. During this time the number of crimes and offenses increased from 172,000 to 195,000, and the number of insane people from 37,000 in 1872 to 52,000 in 1885, an increase of 12 per cent. in crime and an increase of 29 per cent. in insanity."

"In Belgium, from 1868 to 1882, each inhabitant, on an average, increased the amount of alcohol used from seven quarts per annum up to nine quarts, thus making an increase of 28 per cent. The number of crimes and offenses increased, from 1868 to 1882, from 1900 for every 100,000

inhabitants to 2807; the number of insane, which was 8240 in 1868, has gone up to 10,020 in 1878, giving an increase of 24 per cent. of crime and an increase of 17 per cent. of the insane." "In Italy, from 1872 to 1885, the alcohol consumed increased from 2.7 quarts to five quarts to each inhabitant, an increase of about 46 per cent. From 1879 to 1885 the number of criminals increased from 1400 to 1500, and the number of the insane from 15,000 to 22,000, an increase of 7 per cent. of crime and of 29 per cent. of insanity."

The writer says: "These facts clearly show that there is a direct increase of crime and insanity with the increase of the use of alcohol; on the other hand, an additional proof of the fact that a decrease of the use of alcohol in a country is accompanied with a corresponding decrease in the number of crimes and insanity. In Norway, as was stated by M. Cauderlier in 1844, each inhabitant on an average took ten quarts of alcohol; in 1871 only five quarts; in 1876 four quarts. During the same time the criminal statistics came down from 249 per 100,000 inhabitants to 207 and 180, while the number of insane patients came down in the same proportion."

It is to be regretted that the portions of the above paper, as I have it, which refer to France and Italy do not give the per cent. of increase in inhabitants. The statistics are, therefore, so far imperfect, and we have to take the *inference* of the author on his statements.

While these statistics are too few to establish the fact that there exists any great and continuous uniformity between the use or the disuse of alcohol and the prevalence of insanity, yet they do tend to confirm the view that the use of alcohol is one of the most powerful factors in its causation.

We shall confine our consideration of alcoholic insanity to the following forms, viz. :—

1. **Acute Alcoholic Insanity.**
2. **Chronic Alcoholic Insanity.**

ACUTE ALCOHOLIC INSANITY.

The **primary effect** of alcohol is upon the vaso-motor portion of the nervous system. It acts upon this as a narcotic, in a degree paralyzing it, and thus removing the restraint it ordinarily exercises. The action of the heart is increased, and larger quantities of blood pass to the nerve cells of the brain and other portions of the system. The motor centres are indirectly stimulated, and the individual becomes more active and restless. A feeling of increased physical force and importance is engendered. All the secretions and bodily functions are more active.

The mental faculties are also excited ; thought succeeds thought more rapidly ; the imagination is roused and speech quickened ; a general sensation of good feeling pervades the brain ; the person becomes happy and joyous ; the recollection of matters long since past comes back with clearness, and the individual has a larger measure of courage and hope for all undertakings. This condition of mind and body, which continues for a longer or shorter period according to the amount of alcohol used, the susceptibility of the person using it, and the frequency of its repetition, is then succeeded by a corresponding diminution of functional activity. The power of continuous attention and self-control weakens ; and later the power of voluntary movement becomes impaired and finally abolished. The individual sleeps or passes into a semi-comatose state for several hours. In extreme cases the most automatic

centres of all—those presiding over circulation and respiration—may be overwhelmed.

The system may become in a measure tolerant of the presence of alcohol, and require an increased quantity to produce the states of excitement, but this is the case to only a limited extent. The repeated daily use of it, and its effects upon the nervous system, tend to create a craving for it and indulgence, until the organs of excretion fail to speedily remove it from the circulation, and it remains in contact with the elements of the brain until its toxic effects are fully established. The mind becomes clouded and its activity partially suspended; the intellectual faculties no longer guide the purposes of the individual, and a condition supervenes in which no more alcohol can be tolerated by the stomach. Then follow the general conditions which pertain to acute alcoholic insanity, in those cases in which the system has become sufficiently poisoned by its previous experiences.

Symptoms.—The individual becomes irritable, quarrelsome, and excited. The stomach becomes intolerant of food or drink, and rejects whatever is taken. The action of the heart is increased and the pulse remains continuously high, though small in volume and easily compressed. Headache is nearly always present in the early stage of the disease. The conjunctivæ are injected, the pupils are frequently enlarged (though in some cases contracted), giving the eyes a staring expression. The patient is sensitive to noises, and there may exist a hyperæsthesia of some portions of the body; he is unable to sleep even under the effect of large doses of hypnotics. The urine is scanty at first, but not so later in the case.

These general conditions may exist for twelve or twenty-four hours, and then the patient becomes greatly agitated

or excited, and sometimes violent. His delirium appears to be determined by the numerous illusions, hallucinations, and phantoms which are constantly floating before the mind. The illusions and hallucinations are nearly always of a very disagreeable and frightful character, rendering the person sad and fearful. He sees mice, rats, and snakes running about his room or over his person, and he is in a constant state of terror lest he shall be bitten by snakes or mad dogs. Pictures of terror appear on the walls of his room, and he is all the while endeavoring to escape imaginary enemies who are pursuing him. The hallucinations of sight and hearing often change with great rapidity, and in this respect differ from those attending other forms of mental disease. Both body and mind are in a state of agitation and excitement, and the person is unable to rest in or out of bed. He is in terror lest some injury or evil shall result from the horrible visions which are constantly before him. In graver cases muscular action is feeble, the power of coördinating the muscles of the hands and feet is greatly impaired, and all movements of these parts are attended with a trembling, which is so constant and marked a feature of the disorder as to suggest its name. Another marked feature is failure in the power of attention in relation to everything except the phantoms with which the mind is occupied. These sounds and visions are so real and terrible that they absorb every feeling and thought, until the body falls back in exhaustion or bathed in perspiration.

The temperature generally rises one or two degrees in all cases in the early stage of the disorder, but as the patient improves recedes to the normal standard. In very grave cases it rises three, four, or five degrees, and if this temperature continues it becomes one of the most positive indications that there will be a fatal issue.

Termination.—These general conditions may continue for several days, and then begin to subside; the patient sleeps; the stomach tolerates food and craves it; the hallucinations become less vivid and frequent; the pulse lower and stronger; the attention returns to actual occurrences, and the patient gradually passes into a state of partial health. In fatal cases the pulse becomes even more frequent and weak; the temperature continues as high as 103° or 104° F.; the skin is constantly bathed in perspiration; the person passes into a comatose condition, or has convulsions and dies. Recovery is said to rarely take place when the temperature remains high.

EXAMPLE 1ST.—E. H., age twenty-five, a bricklayer; has drank hard for years, but had no previous attacks. This one developed rather suddenly after drinking more than usual for several days. He was not brought to the Retreat at once, but was under treatment for some time at his room. When admitted he appeared to be weak and walked about with a staggering and uncertain gait; tongue covered with a white coat, had no appetite, pulse soft and easily compressed, hands moist and cool, face covered with perspiration, and the muscles about the face twitching. Thought some one was seeking to kill him; seemed nervous and frightened. The first night he slept very little, though he had taken beef-tea and chloral; thought his room was full of snakes and dogs, and that the dogs were trying to pull him out of bed. He piled up his bedding in the corner of his room, in order, as he said, to cover up the dogs and snakes; thought they were in his coat sleeves and under his vest, and would strip off both coat and vest in great haste and alarm, calling upon the attendants to help shake them out and kill them. At another time they were in his trowsers, causing cramps in his legs, and again

under the cushion of the lounge on which he was reclining, and when in the yard they were chasing him about.

After some two weeks these hallucinations of sight and hearing became less vivid, his appetite became good, he slept longer and quietly, the tremors of the hands ceased, and he could walk without staggering. He was transferred to another hall, where he remained until he recovered, in about four weeks from the time of admission.

EXAMPLE 2D.—J. L., age twenty-seven, single, a mechanic; has been intemperate four years; first attack; had been drinking hard for sixty days; was more or less irritable, violent, and noisy for several days prior to admission, and had slept but little for several nights. On admission was very weak; greatly excited and restless; the pupils were dilated, the conjunctivæ injected; the mouth and tongue dry, and the pulse increased. After going to his room, he said that he could see his father in the corner and on the wall with a glass of whisky in his hand; soon after saw a policeman in the door waiting to take him away, and a crowd of men all around his room staring at him. After 24 hours he saw snakes crawling on the floor and over his bed, and begged the attendant to take them away; thought he had been bitten by a mad dog, and exhibited his leg to the attendant, pointing to the wound in proof, and begged for whisky to allay the burning thirst in his stomach. On the third day, when the attendant entered his room, he jumped from his bed crying out, "You are going to shoot me," and then threw himself on the floor, shouting, "shoot me, for I am only a dog." Thought that they had killed his father and cut his mother into pieces, and that his brother was insane; saw an archangel waiting for him at the door, and heard persons drinking at a bar in the next room;

called his attendants to look out for a lot of snakes which were coming, and seizing, tore up his bed-clothes to get the snakes out. The hallucinations of both sight and hearing changed rapidly from one person or thing to another; now he saw some member of his family, and then it was a snake or angel, or a dog, but all the while he was suffering an agony of thirst and longing for whisky. At another time the boys were trying to gouge out his eyes or to cut off his legs. The fifth night he obtained a longer sleep than he had before secured, the general conditions rapidly improved, his tongue became moist, and he was soon ready to take food with relish; the hallucinations faded away, and he made a good recovery.

The **prognosis** is generally of a favorable character except in those cases which have already passed through several attacks, or in which the brain has become impoverished, shrunken, and the tissue affected by pathological changes hereafter to be referred to, or the person has some constitutional disorder. Of 322 cases admitted to the Bloomingdale Asylum, 20 died, 286 recovered, and 16 were still under treatment. When fatal, the issue generally occurred within one week (Earle). Cases, however, not unfrequently pass into a chronic condition.

Treatment.—The indications of treatment are first to allay restlessness and excitement and to procure sleep. For this purpose it is important that the patient be removed from home and family; that he be secluded in a darkened room, after a warm bath, if he is not too greatly excited or weakened to take one. There should be one attendant, and he an experienced one, and no visitors. Withdraw all alcoholic drinks, or if in exceptional cases any are allowed, it should be ale or beer, and only for a short time. A

warm infusion of pepper is often an excellent stimulant for the stomach, and will prepare it to tolerate and digest beef-tea.

In the way of medicines, none operate more favorably in the large majority of cases in procuring sleep than the hydrate of chloral. If this should fail, as it sometimes does, the next trial of it may be preceded by opium or morphine combined with aromatic spirits of ammonia. The wet pack is highly recommended, in cases when the excitement is not too great, as admirable in its effects. In those cases in which the action of the heart is feeble, the tincture of digitalis may be used as a tonic. Caution should be exercised as to the size of the doses employed.

CHRONIC ALCOHOLIC INSANITY.

Some persons may continue the use of alcohol in excessive amount for a long period and yet escape experiencing the conditions pertaining to acute alcoholic insanity, but this continued use certainly produces a profound influence upon the brain and nervous system, which may be followed by thickening of membranes, a shrinking of the volume of the brain, an increase of connective and fibrous tissues, and an exudation of fluids from the blood-vessels of the brain. But these conditions, or modifications of them, give rise in some cases to the more or less well-marked train of mental symptoms which attend chronic alcoholic insanity.

Symptoms.—These generally develop slowly, and are preceded by certain changes in the mental character of the individual, such as a loss of moral tone; a degeneration of the higher and finer qualities of mind; a loss of affection for family and friends; a loss of interest in former pursuits and in care of family; an utter inability or indisposition to

heed the warnings of friends; insomnia, irritability, and in some cases excitement; a trembling of the muscles of the hands, a twitching of the orbicular muscles of the face, and a general loss of muscular power, together with an inability to accurately coördinate the movements of the hands or tongue, and a degeneration of the tissues of the body.

Failure of memory is one of the most prominent of symptoms in many cases. It may exist to almost any extent, from the mere loss of a word in conversation to an inability to recall any occurrence which took place an hour before. Patients are unable to recollect what food they have used, or whether they have used any five minutes after rising from the table. A patient, D. S., in the Retreat at the time of this writing, will repeat to me certain questions which are prompted by the nature of his suspicions concerning his wife as often as he meets me, notwithstanding the fact that I have already replied to the same questions ten minutes before, and have done so daily for months. He was formerly a broker, and yet is unable to recall a single date of his business life or the name of any former associate in business. He is unable to tell whether he has been in the Retreat one week or one year, or to recall one circumstance attending his coming to it.

Excessive suspicion is another of the marked indications present in many cases. The patient suspects the chastity of his wife; he suspects the nurse or the physician, and imagines that they are endeavoring to betray him to the authorities or to make way with him by poison; that they have the police lying in wait to inveigle him from his home or his room, or in some other way are plotting to do him injury, and he endeavors to secrete a knife or a pistol with which to defend and avenge himself, and destroy his

imagined adversaries and his guilty wife with her paramour. Whatever form the subject-matter of the delusion may assume, he is always on the defensive and seeking to be ready to overwhelm his enemies and escape from their designs against him.

Hallucinations are also a marked feature of the disease, and may exist in any of the special organs of sense. They may be unilateral or bilateral; seem to come from within or without. In one respect they differ from those existing in the acute form of the disease, *i. e.*, they are less mobile and changing; they may pertain to the same subject for days or weeks. They generally are of such a character as to inspire dread and fear, though to a less degree than in the acute form, and constitute one of the most prominent of the symptoms. Hallucinations of **hearing** are most frequent; they appear to consist of voices coming from below or from the outside, at times indistinct, as from a long distance, and at other times near at hand and very distinct, accusing the subject of crimes and misdeeds in his past life, and threatening punishment for them. He cannot free himself from their presence, and they haunt him by day and night, menacing him and urging him on toward some deed of violence or revenge. These are often united with **illusions** of hearing, so that sounds of almost any kind may be converted into cries of distress, the noise of weeping, or the calling of friends. Hallucinations of sight are sometimes present, though less frequent than those of general sensibility. Patients often complain of feeling a creeping sensation on the surfaces of their legs and arms; of sensations like those arising from the blowing of air, or, again, of an electrical influence acting upon some portion of the body.

Visceral and **genital hallucinations** are more frequently present in chronic alcoholism than in other forms of insan-

ity. One of these cases, G. P., which has been under my care several years, formerly experienced abnormal sensations in the genital organs which led him to the belief that he had been castrated since he came to the institution, by means of electricity which passed through invisible wires in the walls of his room. During a trial which was instituted with a view to determining his mental condition he informed the Judge that he had been castrated, and that there existed no doubt in his mind that every other male patient admitted to the Retreat was obliged to pass through a similar experience at the time of his admission. The character of the hallucination generally determines the form of the subsequent delusions. This patient, having years ago experienced hallucinations affecting the genital organs, which evidently profoundly impressed his mind, has ever since had a definite delusion in reference to their condition which has become so thoroughly ingrained in the channels of thought that it cannot be changed. His mental state is one of chronic suspicion and irritability.

Cramps in the muscles of the legs are common, especially at night, and the patient is often unable to sleep in consequence of the resultant pain which shoots up in the paths of the large nerves.

Hyperæsthesia of portions of the body is frequently present, and the patient complains of being cold, and requires a larger amount of clothing than when in health. This is undoubtedly due to a condition of instability in the sensory ganglia, causing sudden and irregular liberations and discharges of nerve energy, which may eventuate either in increase of excitement or sensation. Indeed, the the whole nervous system is in a state of extreme instability, and irritations are transmitted to and from the cortex in

the most irregular manner. The temperature is generally lower than normal.

The condition of **chronic gastritis** from which many patients suffer not infrequently leads them to think that they are being poisoned. The movement of gas in the stomach sometimes gives rise to the belief that there is a snake or some animal there. The character of the hallucinations, suspicions, and delusions generally renders the person sad and melancholic, and he may become so much depressed that he endeavors to commit suicide. When the element of suspicion is most prominent, he may become excited, and determine to resist and overcome his enemies, and for this purpose resorts to violence.

In some cases epileptoid attacks accompanied with trembling or twitching of the hands, faintness, difficulty in breathing, and sometimes with vertigo and vomiting, followed by great prostration, attend the course of the disorder with more or less frequent regularity; and again he may pass into a condition of hebetude, remaining day after day with a dull, stolid appearance of countenance, saying little or nothing to those about him, or if he replies at all it is only in monosyllables, or words imperfectly articulated. These mental states are subsequent to those of excitement referred to above, and generally are attended with local anæsthesias affecting the extremities and portions of the body.

When the delusions and suspicions have become partially allayed, as is not unfrequently the case, the person will spend months or years in some form of daily occupation, under the supervision of others. He may not voluntarily refer to the delusions concerning his family or friends, but on being questioned admits that he still believes his wife has been faithless, and that his present condition is due to

the plot of some former friend. Even when these delusions have entirely passed away, and the mind appears to be clear and active, it is rarely the case that it regains its normal tone. It remains permanently on a lower plane, and the patient becomes indifferent to the opinions of friends and society; the natural affection for children and wife, and desire for their welfare and interests, do not resume their former ascendancy, and he refers to them only when questioned.

EXAMPLE 1.—J. M., age fifty, a farmer. His father died of phthisis. Has used alcohol, and smoked and chewed to excess for years. Two years ago he became morose, and at times subject to fits of violent anger; was restless and irritable, did not sleep well, had loss of appetite, suffered from indigestion and lost flesh. On several occasions he attacked his wife and threatened to kill her, and also some of his neighbors, because, as he claimed, they were trying to get his property from him. He carried a revolver with him, and for some time before admission was under the charge of a sheriff. On admission had many ill-defined delusions, and was not sure of anything, but thought some one was plotting against him; attributed his troubles largely to his second marriage, and said his enemies in town had concocted vile stories about him and the chastity of his wife, and he had left her and gone to a neighboring town to live. Thought he had been poisoned by wearing a pair of shoes which had been given him, as he had a strange sensation in his feet when using them. After some months he began to work in the garden, but persisted in his belief as to the chastity of his wife, and though she often wrote to him, said the letters were not from her. The delusions continued active, and he made no requests to be allowed to go home.

EXAMPLE 2.—W. A. R., a farmer, age fifty-eight; has been intemperate for more than twenty years; his father was also intemperate. Had rheumatism several years ago, and has been sensitive to the effects of heat. Had partial paralysis of the right side seven weeks prior to admission, attended with loss of memory, incoherence, and delusions; thought that he was not in his own house, and when in bed that he was walking about the neighborhood. On admission he appeared to be weak and illy-nourished; action of the heart feeble; bowels costive; had hemorrhoids; loss of appetite; trembling of the hands, and unsteady gait. Had hallucinations of sight; did not sleep; thought that the walls of his room were closing in on him; was very noisy at times in the night from terror, at other times thought he was at work in the woods all night drawing wood; or that he was shut up in a tomb; complained that persons came into his room at night, and threw him out of bed on the floor; that they went to the rooms above him and shouted at him to prevent his sleeping; that they were plotting to kill him; thought he could see writing on the carpet of his room. He often complained of prickling and smarting sensations on his body and limbs; also that rheumatic pains were present about the region of the sciatic nerves. These prickling pains seemed to alternate with shooting and electric-like flashes along his spine and the tracks of the spinal nerves.

After three months the hallucinations became less vivid; he slept better and was less depressed. Has, at the time of this writing, partial anæsthesia of his right side from his shoulder to his knee, and complains much of cold when the thermometer is at seventy degrees, and sits for hours with his hat and overcoat on, near the steam radiator, when not required to exercise in the grounds, where he walks daily in a feeble manner.

Diagnosis.—This is not difficult, and may be verified by the history and general appearance of the person, the trembling of the hands, the difficulty of coördinated movements of hands and feet, the character of the hallucinations and suspicions, the hebetude of mind, and the change of character. Other points of diagnosis will be referred to in the next lecture.

Treatment.—Effort should first be made to restore the stomach to such a condition that it will crave and digest food. For this purpose the vegetable tonics, preceded by gentle laxatives, may be advantageously used. Strychnine, electricity, and the acid phosphates are all of some value in restoring tone to the demoralized nervous system, and should be given in connection with abundance of food, gentle exercise in the open air, and, as soon as the patient is sufficiently strong, occupation in the garden and field. When indisposed to take exercise, or too weak to do so, passive exercise or massage may be employed, or the patient aided in exercising by attendants. Improvement may be expected, especially in first attacks, but relapses are very certain to occur, and persons rarely make good recoveries from chronic alcoholic insanity.

Pathological Anatomy.—The membranes are thickened, and there are often observed slight extravasations of blood in the pia mater, and adhesions to the eminences of the convolutions, which resemble those existing in cases of general paresis. The volume of the brain is lessened, the fibrous tissues increased and the arteries atheromatous; these vascular changes lead to partial congestions, softening and breaking down of the substance of the brain, attended with slight hemorrhages, or exudation of serum. The pathological changes existing in the liver, stomach, and other portions of the body will be found described in treatises on general practice.

LECTURE XXIV.

ALCOHOLIC INSANITY. (CONCLUDED.)

Alcoholic Paresis—Diagnosis of—Character of Mental and Physical Symptoms Contrasted—Peripheral Neuritis—Hyperæsthesia—Treatment—Morphinism—"The Opium Habit"—Increase of—Mode of Invasion—Dose—Idiosyncrasies—Hypodermic Use of Morphine—Symptoms—Feelings of Exaltation Followed by Those of Depression—Increase of Dose Necessary—Loss of Memory and Moral Tone—Effects Upon Nerve Cells and the Sensory System of Nerves—Prognosis—Treatment.

ALCOHOLIC PARESIS. (Alcoholic Degeneration.)

Other cases pass into a still larger degree of alcoholic degeneration, and develop symptoms which closely resemble those existing in general paresis. It is important to observe and become somewhat familiar with any differences which may be found to exist in the symptomatology of these two forms of disease.

I. Ideas of grandeur, an optimistic feeling, and a facile state of mind are often found in both these diseases. In the general paretic, however, they are more frequently among the primary mental symptoms, and, though they may be associated with, yet are very rarely secondary to the sensorial and motor disturbances. On the other hand, when existing in alcoholic paresis they are always associated with motor and sensorial disorders, and are secondary to them in the order of their development.

In general paretics the ideas of importance and grandeur are often changing from day to day, without order or con-

sistency. In the alcoholic paretic they are persistent, rarely change, and continue the same from month to month without any true remissions. It will also be generally found that there have formerly existed periods of mental depression, which have grown out of and been associated with a subacute condition of alcoholism.

2. In both forms of disease, there exist motor and sensorial derangements, which appear to be of the same general character. A careful study of these conditions, however, will indicate some differences which are important aids in forming a diagnosis.

The difficulty in the pronounciation of certain consonants, words, and sentences is more pronounced in general paresis than in chronic alcoholism. It does not become less except during short periods, but, on the contrary, increases as the disease progresses, while in chronic alcoholism it may disappear altogether under the influence of abstinence and treatment.

The fibrillar trembling is more limited in general paresis, affecting mainly the tongue, orbicular muscles of the face, and the muscles of the hands, while in alcoholic paresis it affects more generally the whole muscular system. In general paresis the tremor and general debility march forward without remissions, or with very limited ones, in the progress of the disease, and the patient dies in the course of a few years at the longest; while in alcoholic paresis there does not exist any such natural history of disease or systematic order of termination, but the patient may live on for many years.

3. Again, in both forms of disease there may exist epileptiform seizures of similar character, and also local anæsthesias; but associated with alcoholic paresis there are generally found existing hallucinations of sight and

more marked sensorial disorders than in general paresis. Derangements of the stomach also rarely exist in general paresis; patients have a ravenous appetite and use large quantities of food; while in alcoholic paresis the patient generally has gastric catarrh with loss of appetite, a loathing of food, and inability to retain it. An unfavorable prognosis exists in both forms of disease.

4. Alcoholic Peripheral Neuritis. Sensory disturbances in the peripheral nerves are much more common in chronic alcoholism. They consist in an increase and disorder of cutaneous sensibility, as exhibited in local hyperæsthesias, sensations of heat and cold, tinglings, pricklings, burnings, and cuttings as with a sharp instrument in different localities, but generally on the arms and legs. These morbid sensations tend to move in the line of the nerve trunks, and, as the disorder progresses, to the back and up the spine.

The increase of sensitiveness may become so extreme that the patient is annoyed with the weight of his clothing and by his ordinary motor activities, which tend to become more and more circumscribed. Cramps and pains are often present, which when relieved in one locality suddenly appear in another and interfere with sleep. Indeed, it is generally the case that sleep is imperfect and disturbed by the occurrence of dreams of an unpleasant or horrible nature.

While these anomalies of peripheral sensation are not strictly diagnostic of chronic alcoholism and are present in a modified form in some cases of primary delusional insanity, and also in some other disorders of the nervous system, yet they are rarely if ever found in cases of general paresis. On the other hand, local anæsthesias are very common in general paresis and frequently compromise extended surfaces.

While the above considerations may aid in forming a

diagnosis, yet it may be inferred, that not unfrequently it will be difficult to make a satisfactory differential one between these two forms of disease, and in some cases quite impracticable to do so without first becoming acquainted with the antecedent habits and history of the cases extending through a considerable period of time. There will, however, be little difficulty in forming an assured diagnosis when the general paretic has advanced into the latter part of the second and the third stages of the disorder.

Treatment.—As the conditions pertaining to alcoholic paresis depend upon and proceed from pathological changes in the texture of the brain which have generally been in process of development during a long period of time, very little can be done to permanently remove them. Tonics in the form of strychnia, iron, and phosphorus afford more promise in the way of ameliorating these conditions than other medicines.

MORPHINISM.

Observations.—The large and constantly increasing quantity of opium which is imported into the United States every year is an evidence, in some degree, of an increase of what has been termed **the opium habit**. The increasing number of persons from the middle and higher grades of society who seek the care and treatment of physicians, and asylums especially established for the care of such cases, is another indication of its growth. The effects of opium upon the nervous system are so deceptive, illusory, and soothing that the subject seems to be taken captive almost before he suspects a possibility of danger. In some respects they resemble those produced by the use of alcohol. Especially is this the case when the drug is used by persons of a highly sensitive nervous organization, or by those whose nervous systems have been injured during

the developmental period of life by blows on the head or by accidents of any kind. By the use of either of these articles, in process of time a craving in the system becomes developed, which is so powerful as to rise above and control the systemic activity, and largely abolish the moral sentiments. As this state, when produced by the use of alcohol, has been termed **dipsomania**, so, when produced by morphine, it may be termed **morphiomania**, or **morphinism**.

Mode of Invasion.—In the development and growth of this habit, the habitual use of the two articles differs quite widely. In the use of alcohol it arises largely and generally from the social customs and relations of the individual. Its basis may have been inherited, and the essential conditions for its growth, which only require the initiatory draught, or a few of them, to awaken it into full activity, may have existed from childhood. In other cases the process is much slower; but by whichever method it comes, the social element is always present at the door through which it enters.

Now in the case of morphine this is quite the reverse. The habit generally has its initiation through the prescription of the physician. The supersensitive nervous system suffers from some attack of acute pain, such as neuralgia or sciatica, and calls aloud for relief. The compliant and sympathetic physician responds, as he is bound to do, and selects from the quiver of his medicine case the sharpest and surest weapon he has for dislodging the unwelcome tyrant of suffering. The effect is magical, and the subject is lifted from the realm of suffering to the seventh heaven of bliss. He is not only relieved from the pain, but elevated so far above it, and above the normal neutral realm of health, that he seems to be in a world of light

and ecstasy. The brain acts with more than its normal ease and facility, the intellect is quickened, the memory is increased, and the imagination filled with images and illustrations pertaining to whatever subject may be uppermost in the mind for the time being. The physician goes his way, and thinks no more of his prescription or of his patient. Not so does the patient himself in reference to his experience. He has had sensations never to be effaced from his memory, and during the next and subsequent attacks of pain which may occur he does not wait for the dose from his physician; he sends to a drug store, if he has not already laid in a supply of the precious substance, and prescribes it for himself; not once, but whenever he thinks he may require it, and the more frequent the prescription, the more urgent becomes the demand of the system for another, until the so-called habit becomes established; not within a few days or weeks, but, in the large majority of cases, very gradually.

The dose required to produce its physiological effects varies greatly in different persons. In some the system appears to be especially sensitive to its effects, and such cases are regarded as idiosyncrasies. Instances are reported in which one-thirty-second of a grain has produced a profound state of narcotism. Such persons, however, are in but little danger of developing "the habit." In other cases no such results follow even large doses. These differences are less marked when the drug is administered hypodermically than when given by the mouth; and it is quite probable that this is, at least partially, accounted for by its not becoming fully absorbed when used by the stomach. The effects are also greater upon the system before twenty years of age than after forty or sixty.

There exists no doubt that the danger of the formation of this habit is much greater from the hypodermic use of

the drug than from its administration by the mouth. This may arise in part from its direct and immediate absorption into the circulation while freed from admixture with such other substances as it encounters in the stomach. The use of morphine appears to be a vice which is peculiar to persons in the higher walks of life and to those who are engaged in sedentary and in-door occupations. It is not unfrequently found among members of the professions, especially physicians, while drunkenness is more often limited to persons whose nervous systems are less sensitively organized. Moreover, the opium habit is unsocial; the individual uses the drug secretly and denies that he uses it at all, until the change in his system has become very marked, and necessity compels its admission.

Symptoms.—It has already been stated that morphinism rarely becomes at once fully developed in the system. Indeed, a limited amount of the drug, say from one-tenth to one-fourth of a grain, may be used daily for a long period without the supervention of any of the well-marked conditions which arise from the use of larger doses, but an abnormal condition of the brain generally develops, especially in young persons, and nearly always one which requires an increased amount of the drug to satisfy the demand of the system. This condition is followed after a while by a state of mental and physical depression, which marks more emphatically the departure from the state of health, so that constantly increasing doses become necessary. The use of these larger doses produces a saturation of the system which eventuates in a disturbance of the assimilation and nutrition of the elemental tissues. The appetite becomes less, and the stomach less sensitive to hunger in consequence of a catarrhal condition of the membrane. The secondary metamorphosis of tissues is also

somewhat impeded, and the systemic physiological activities are in partial stagnation and abeyance. Persons complain of more or less headache, sleeplessness, neuralgia, failure of the memory, and inability to apply the mind persistently to any occupation or subject of study. The moral sentiments become changed very early in the disorder of the general system. Regard and consideration for friends and relatives become less marked; the love for the family is lessened, the judgment clouded, and the person untrustworthy and regardless of truth; in fact, I have rarely known one addicted to the practice of opium eating who was not an incorrigible liar. All sense of honor and the finer sentiments become blunted, and selfishness rules supreme in all questions pertaining to the indulgence of the habit.

This results from the physiological effects of the drug, which acts directly upon the elementary tissues of the higher nerve centres of the brain. In consequence of the impairment of the nutrition of these nerve-cells, they become less sensitive to the normal stimulus of such impressions as reach them from the external world, or from the past experiences, which have become registered as memories. The subject becomes demoralized; such ambitions and aspirations as he has cherished in the past seem largely to fade out, and he seeks for indulgence in seclusion. The effects of morphine upon the social faculties differ largely from those of alcohol in this respect. The indulgence in the latter tends rather to increase the love for social life, and the satisfaction appears to be doubled if one is in the company of his friends, or even with strangers. With the opium-eater this is quite reversed, and his indulgence is in private. The sensory system of nerves also becomes blunted and the muscular system less capable of continued activity, while an abnormal

distention of the capillary vessels of the extremities is often present.

The more delicate movements of the hands and fingers become affected and are uncertain; the muscular fibrillæ of the surface of the tongue, when it is extended, are in much the same uncertain state as when the subject has general paralysis. The eyes assume an habitual lustreless, vague expression, the face is pinched, and any considerable physical exertion is attended with fainting or a feeling of exhaustion. At times the subject is unable to sleep, and, when he does, is troubled with nightmares and horrible dreams. He, however, rarely has hallucinations or fixed delusions.

The amount of morphine required by the system to relieve these distressing symptoms, both physical and mental, tends constantly to become greater, and in some chronic cases is very large. Ten grains per day is not an unusual amount, and several cases have been under my observation in which double this amount was taken at a single dose. I have seen one case in which a drachm a day had been used. In such cases the departure in the various organs of the system from the standard of normal activity has become very great; a true neurosis has become established, or, at least, a habit so profound and imperative that it rules the whole system. Any departure from it, therefore, causes a commotion, attended with a suffering which is little short of agony. The adjustment of the tissues of the brain and the nervous system to the presence of the drug has become a sort of second nature, and the artificial condition for the time being is almost the physiological one. Any movement toward a return to a normal state, by withdrawing the narcotic, is attended with suffering so great as to be little realized by those who have not witnessed it. Moreover, when

the system has once triumphed over the habit, and become free from the more immediate effects of the drug, there ever after exists a strong probability that its use will again be resumed whenever any considerable demand for physical exertion and hardship may become necessary, or the person experiences the effects of ill health. The prognosis is, therefore, unfavorable in all cases which have extended over a long period, and especially when the habit has been formed before twenty-five years of age.

Treatment.—There are two methods of managing such patients. The first is by withholding absolutely the morphine at once. Dr. Austin Flint and other authorities advocate this course. The other is that of a gradual diminution until the doses are so small as not to be appreciated by their effect. I am in the habit of following the latter method. The sudden and absolute withdrawal of the drug, which has been used perhaps for years in large quantities, causes so great suffering that I prefer a gradual and rather rapid diminution of the quantity given. When this is done systematically, and with mathematical accuracy, every day, the suffering is greatly lessened, and the danger of collapse and impulsive delirium generally avoided. In some cases, especially when persons are in vigorous health, the sudden withdrawal is the best method to pursue. The patient is sooner on the highway to recovery. When the morphine is gradually withdrawn, it is better to have everything conducted so that the patient shall know nothing as to the rapidity with which the doses are diminished. Larger doses are usually required at night than during the day, and the condition of irritation may be relieved by the use of chloral, alcoholic stimulants, and the use of solid food at night. The bromides of ammonium and sodium

are also of essential service in allaying restlessness and aiding to procure sleep.

The propriety of regarding and studying morphinism as a form of insanity may possibly be questioned by some, but as its effects when carried beyond certain limits, which vary in individual cases, produce demoralization and a partial derangement of all the higher mental faculties, I think every such case should be carefully studied. No intimation is here intended that every person who habitually uses morphine should be regarded as technically insane or be considered as irresponsible. Each case must be regarded by itself. Not all inebriates are insane, though some are, and the effect of both alcohol and opium upon the nerve cells of the gray matter of the brain have a considerable degree of similarity when long continued.

LECTURE XXV.

GENERAL PARESIS.

Synonyms — Importance—Definition—Ætiology—Sex—Age—Heredity—Social Position—Locality—Statistics: 1. In New England Institutions; 2. New York Institutions, Michigan Institutions—Comparison of the Different Sections, Different Nationalities, and Races—Sexual Indulgence—Table of Causes from Reports of the Commissioners of Lunacy in England—Syphilis—Intemperance in the Use of Alcohol—Acquired or Inherited Tendency—Symptoms: 1. During the Initial Period—May be Those of Elation or Depression—Peculiarities of Mental and Physical Symptoms in Both These States—Duration of Initial Period.

Synonyms.—General paralysis of the insane. Paralytic insanity. Paralytic dementia. General paralysis. Paretic dementia. Progressive general paralysis.

The discovery and differentiation of no form of insanity has been attended with such important results to psychology as those of the disorder we are now to study. Concerning no form of mental disease has there been so much written during the past twenty-five years in Germany, France, and Great Britain. This has been due not only to its great intrinsic importance, but also in part at least to the fact that it is attended by, or consists in, lesions of the brain and other portions of the nervous system which are easily demonstrable. The interdependence of mind and brain have by this fact been more definitely and clearly shown than ever before.

Some knowledge of this disease is of special importance

to medical students and general practitioners in this country from the fact that it appears to be rapidly increasing, especially in large cities. This is doubtless due to the development of conditions and changes in the habits and practices of society as well as in the forms of our civilization which will hereafter be referred to and explained. Our progress in its study may be facilitated by presenting some form of definition with which to commence, and yet so multiform are its symptoms and so diverse are its anatomical lesions that it is not easy to formulate one in the compass of a few lines. I, however, suggest the following as sufficiently accurate for our present purpose.

Definition.—General paresis is a disease primarily affecting the brain and nervous system; attended by organic changes in the cortex and some of its membranes; evidenced by mental symptoms of an expansive and exalted, or in some cases of a depressive character; also by certain physical symptoms, such as paresis resulting in a peculiar affection of the speech, especially in the articulation of words; disorders of motility, incoördination of gait, and generally with disorder of sensibility, and finally with paralysis; the disease passing through a more or less definite course, ending in death within a few years after the appearance of characteristic symptoms.

Ætiology. PREDISPOSING.—I. *Sex.*—The statistics of all authorities agree in demonstrating that general paresis is much more prevalent among males than females. The degree of difference, however, varies considerably with different writers and in different localities. In my own statistics, hereafter referred to, relating to New England, it is found that the admissions of female paralytics stand, in proportion to that of males, almost exactly as one to ten,

in those relating to New York, as one to six and five-tenths, showing a large difference in the two localities.

Taking the two States of Vermont and Maine, in which there are no large cities, and we find the proportion of female paralytics to male is that of one to three and five-tenths, thus exhibiting a difference of six and five-tenths per cent., as compared with the numbers which cover the six New England States, and the percentage of both sexes is also lower. Among populations residing largely in the conditions of country life, therefore, exciting causes appear to affect both sexes more nearly in the same degree than in centres having a large population.

The Commissioners in Lunacy, in England, make the proportion of admissions four males to one female. In Germany the ratio is much greater in public than in private asylums, it being nine to one in the former, and only about four to one in the latter. Dr. Mickle has computed the admissions to asylums in England, amounting to 54,642, and finds that the per cent. of general paresis among males was 12.65 and among females 3.25, which would yield a proportion of about four to one.

The ratio of the sexes at the Retreat, during the past twenty years, has been eight males to one female.

2. *Age*.—This form of disease is much more common between the ages of thirty-five and fifty years than during an earlier or later period of life. Of the seventy-four cases which have been in the Retreat during the last twenty years, the youngest male was twenty and the youngest female was twenty-six at the time of admission. The oldest male was sixty-nine and the oldest female was sixty-one. The average age of males was forty-five, and that of females was forty-eight. I saw the case of a female patient in la Salpêtrière, Paris, several years since, who was only eighteen; and

cases are reported as occurring at a still earlier age. These extremes, however, in either direction among males or females, are the exceptions, and comprise but a very small proportion of the total number of cases. The large majority of cases, as indicated in the above average among men, occur in the prime of physical development, and when the brain and whole nervous system are in the highest state of functional activity and vigor.

The above average age among female general paretics is at variance with general statistics, which indicate that the disease appears in women from three to five years earlier than among men, instead of three years later. Modern and fuller statistics tend to show that general paresis appears within the last ten years, in a larger proportion of cases, at an earlier period of life than the statements of some authors would seem to indicate.

3. *Heredity*.—Hereditary influences have been regarded as one of the strongest predisposing causes of general paresis. We should predicate this from the character of the disease itself. As it appears to arise primarily in a hyperæmic, or subacute, inflammatory process, which affects the cerebral cortex, we certainly are warranted in conjecturing that persons who are leading lives attended with great mental excitement, reverses in fortune, and consequent strain and disappointment, will be more likely to beget offspring who may, under the influence of exciting causes, develop general paresis. Without doubt, in this manner heredity becomes a most important factor as a predisposing cause. Indeed, there can be as little doubt that there exists a general paretic dyscrasia or diathesis, as that there is a cancerous or a tuberculous diathesis; and as both these have been evolved, in the process of time, from the influence of certain experiences which pertain to life in the conditions

of civilization, so in like manner will a general paretic diathesis develop into a larger degree of activity, and consequent frequency of transmission, under the stimulation of the twentieth century civilization and the influence of certain diseases.

In my own cases, hereditary influence appears to have existed in nineteen per cent. of males and in 22.2 per cent. of females, this number having had parents who had suffered from some forms of mental or brain diseases. In the tables of Dr. Mickle, heredity existed in 14.3 per cent. of males and in 19.1 per cent. of females.

4. *Social Position*.—There exists no doubt that the general conditions incident to life in the lower ranks of society predispose to some forms of mental disease, and that a higher per cent. of these classes than of the more wealthy become insane. Does the same rule hold true in the case of general paresis? I have no information or general statistics of hospitals in this country which will shed light on this subject. Referring to those presented by Dr. Mickle, we find that out of 5454 private male patients, the per cent. of general paralytics was 9.63, and in 4173 female patients the per cent. was 1.84. Total, 5.91 per cent. of private admissions.

Of 22,113 pauper male patients, 13.38 per cent. were general paretics, and of 23,811 pauper female patients, 3.5 per cent. were general paretics, yielding 8.21 per cent. of pauper admissions. This indicates nearly four per cent. more of general paresis among pauper male patients than among private male patients, and 1.22 per cent. more of pauper females than of private females.

It should, however, be borne in mind that more or less of those classified as pauper cases, because in public asylums, actually have belonged to the higher classes, or at least

did not belong to the pauper class until rendered helpless by disease ; and it is quite impossible to arrive at any accurate conclusion as to this point by general statistics. There is no doubt that a general paretic diathesis is active and prevalent in this country in all classes of society, but my statistics indicate that it is much more prevalent among the poorer classes and the populations of cities.

Of those cases that have been in the Retreat during the past twenty years, 58 per cent. had been engaged in occupations requiring brain work almost exclusively, 35 per cent. in manual occupations, and 7 per cent. had no occupation.

5. *Locality and Race.*—One of the curious facts in relation to general paresis is, that it has been and still is very rare in Ireland, Norway and Sweden. Until within a few years it was said not to exist in Ireland. Recent reports, however, indicate a very small per cent. in the larger asylums which receive patients from cities, but the contrast as to numbers affected with the disease on the different sides of the Channel is very marked. When the Irishman emigrates across this Channel, he loses his immunity and succumbs to exciting causes ; so that it is common enough to find Irishmen with general paresis in England, Wales, and Scotland, and also in America, though in less number in proportion than among Anglo-Saxons. Climatic influences can, however, have a very small share in securing any such immunity, as they are quite similar in the two islands. Doubtless the racial element contributes a quota of influence toward an explanation of the peculiarity, but a much more efficient cause exists in the contrast between the mental and social habits of the inhabitants of Norway and Ireland, and those of England and America, with their great cities and manufacturing centres. The whole routine of the daily life of the one is limited to an out-of-door exist-

ence and largely to a cultivation of the soil, with little to stimulate the ambition or the imagination; while that of a much larger proportion of the other is mainly indoor, and requires long-sustained mental activity, and often continued anxiety and excitement.

Statistics indicate that general paresis was much more frequent in Central and Northern France than in Southern France twenty years ago. At the present time this difference is becoming much less. Whether this change is due to an increase of certain habits pertaining to the social life of the people or to improved methods in diagnosing the disease is uncertain.

The following tables of statistics will indicate to some extent how great has been the increase of general paresis in certain sections of the United States. They also enable us to make a comparison between the different localities to which they relate. The statements of numbers have been prepared for me by the superintendents of the asylums which they represent, and cover twenty years, or four quinquennial periods. Those relating to New England are from all the public institutions for the insane with one exception.

NEW ENGLAND ASYLUMS.

ADMISSIONS.		PARETICS.		PERCENTAGE.		
Males.	Females.	Males.	Females.	Males.	Females.	Total.
4,123	3,625	137	18	3.32	.49	2.
4,980	4,435	63	25	1.26	.56	0.93
5,395	4,866	354	43	6.55	.88	3.86
6,775	6,010	494	125	7.29	2.07	4.88
21,273	18,936	1,048	206	4.92	1.08	3.11

In the first quinquennial period, the statistics relate to seven asylums, in the second to ten, in the third to twelve, and in the fourth to thirteen, additional ones having been erected from time to time.

It will be observed that the percentage of general paretics, during the first quinquennial period, was of males 3.32 and of females .49; total, 2.0; and that during the fourth quinquennial period it was of males 7.29 and of females 2.07; total, 4.88, an increase of more than one hundred per cent. How far this increase is due to greater accuracy in diagnosis is uncertain.

The table relating to New York embraces all the public institutions of the State except those in the immediate vicinity of New York city. As these receive largely from the foreign element of immigration which lands in the city, I have not thought proper to include them in this calculation. The table for the first period contains the statistics for four asylums, the second for five asylums, and the third and the fourth those of eight.

NEW YORK ASYLUMS.

ADMISSIONS.		PARETICS.		PERCENTAGE.		
Males.	Females.	Males.	Females.	Males.	Females.	Total.
1,728	1,816	138	22	7.68	1.21	4.44
2,359	2,284	215	21	9.11	.91	5.08
3,623	3,233	371	47	10.2	1.44	6.69
4,896	4,116	448	66	9.17	1.6	6.91
12,606	11,449	1,172	156	9.29	1.36	5.52

These statistics relating to New York indicate a less rate

of increase, giving a total of from 4.44 in first period up to 6.91 during the last period.

MICHIGAN ASYLUMS.

ADMISSIONS.		PARETICS.		PERCENTAGE.		
Males.	Females.	Males.	Females.	Males.	Females.	Total.
210	292	22	2	10.4	.68	.47
922	820	118	3	12.6	.36	6.94
1,177	926	217	7	18.5	.75	10.6
1,204	1,009	108	23	8.9	2.2	5.9
3,513	3,047	465	35	13.2	1.1	7.6

In the asylums of Michigan, which is one of the newer States, the per cent. of general paresis increased rapidly during the first three quinquennial periods among males, and but very little among females. During the last period it was lower in both sexes than during the preceding one. How far this may have been due to a change in the character of the increase in population there is no means of determining.

The following table presents a comparison between the statistics relating to the three localities, by which it appears that the per cent. of general paresis in Michigan is much higher than it is in either New York or New England. This difference in increase cannot be explained on the ground of there being a higher per cent. of foreign-born persons in Michigan. According to the United States census of 1880, the population of foreign born to the native population was very nearly alike in both New York and Michigan, it being in both States 31 + per cent., while in the New England States it was 22 + per cent.

NEW ENGLAND, NEW YORK, AND MICHIGAN ASYLUMS,
RESPECTIVELY.

	ADMISSIONS.		PARETICS.		PERCENTAGE.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
N. E. .	21,273	18,936	1,048	206	4.92	1.08	3.11
N. Y. .	12,606	11,449	1,172	156	9.29	1.36	5.52
Mich. .	3,513	3,047	465	35	13.2	1.1	7.6
Total, .	37,392	33,432	2,385	397	7.18	1.12	4.34

By a comparison of Table 4 with that of Dr. Mickle on page 462, following, and with the assumption that they represent, with a fair probability, the per cent. of general paresis existing in England and the United States, we find that for every 100 male general paretics in England there are 56 + in the United States, and for every 100 female general paretics in England there are 34 + in the United States; and for every 100 of both sexes in England there are 55 + in the United States.

Dr. Bannister* has presented the statistics relating to race of 91 general paralytics admitted to the Illinois Eastern Hospital for the Insane as follows: Anglo-Saxon races, 47 males and five females; German race, 14 males and one female; Scandinavian races, two males and one female; total of Teutonic races, 63 males and seven females; total of Celtic races, ten males and three females; total of Latin races, two males, no females; total Slavonic races, one male, no females; Jewish, two males, no females; African, no males and three females; grand total of 78 males and

* *American Journal of Insanity*, 1888.

13 females, making exactly six males to one female, and 57 + per cent. of the Anglo-Saxon races to 42 + per cent. of other races. Dr. Bannister says that the above patients come from all portions of the State, and that "the foreign element in its population, which amounts to more than 50 per cent. of the whole, also comes from all parts of the State."

Of my own cases, 68 were born in America, two in Canada, one in England, one in France, one in Germany, and one in Ireland.

EXCITING CAUSES.—As general paresis is characterized by a quite definite and clearly marked class of symptoms, and these, both physical and mental, are to a certain extent *sui generis*, this peculiarity has been thought to indicate some special cause, or at least that some special cause is in more active operation than in the production of other forms of insanity; for example, **excessive sexual indulgence**. Maudsley, Shephard, and Sankey all agree as to the prime efficiency of this factor as an exciting cause, and in confirmation the latter says* that Dr. Conolly told him that in his large experience he had never met with a case of general paresis among females in the upper classes of society.

This theory possibly arose from, and certainly appears to be strengthened by, the fact that the disease is much more prevalent among the populations of large cities, where the conditions of life favor greater excesses in sexual indulgence than in regions more sparsely inhabited. It should, however, be remarked that the disease was much less frequent fifty years ago among the very classes which it most affects at the present time; it may, therefore, be

* "Lectures on Mental Diseases," H. W. A. Sankey, p. 182.

presumed that there are other influences in operation more largely than at the former period. While sexual immorality has doubtless been common enough in all ages since the race began to live in the conditions of civilization, still, in view of the fact that large numbers of general paretics have led immoral lives, there can be no question that this, in connection with other exciting causes, has had a considerable influence in producing the disease. In the experience at the Retreat it was regarded as the cause in 5.4 per cent. and was doubtless but one of many others. That this is a general proposition becomes apparent from the table (page 462), which has been prepared by Dr. Mickle* from the reports of the Commissioners of Lunacy in England.

It is readily perceived that this etiological table is equally valuable in exhibiting the causes of other species of insanity, as that of general paresis. Indeed, the three or four leading factors as here presented, *i.e.*, **intemperance in the use of alcohol, adverse circumstances, including poverty, heredity, and bodily diseases**, are those which are prominent in all etiological tables of insanity. Cases in which **ovarian disease, religious excitement, self-abuse, parturition, or the puerperal state, and congenital defect** have been efficient as causes must be very rare in the asylums of this country. Only in tables comprising very large numbers of cases do they appear, and then only in a very small per cent.

Dr. Folsom† finds **syphilis** a very frequent cause; it was present in two-thirds of all his cases, and Dr. Bannister has a similar experience. Dr. Ascher, of the Dalldorf Asylum,

* Mickle on "General Paralysis of the Insane," p. 263.

† *Boston Medical and Surgical Journal*, 1889.

Berlin, found that it had existed in 109 out of 313 cases

CAUSES.	MALES.	FEMALES.	MALES. AVERAGE PER CENT. IN MALE G. P. ADMIS- SIONS.	FEMALES. AVERAGE PER CENT. IN FEMALE G. P. ADMIS- SIONS.	TOTAL AVERAGE PER CENT IN G. P. ADMIS- SIONS, BOTH SEXES.
<i>Moral.</i>					
Domestic troubles,	124	86	3.6	9.4	4.9
Adverse circumstances, . .	373	44	10.9	4.8	9.6
Mental anxiety,	221	29	6.4	3.1	5.6
Worry and overwork, . . .	29	7	.8	.7	.8
Religious excitement, . . .	15	12	.4	1.3	.6
Love affairs, including se- duction,	15	6	.4	.6	.5
Fright and nervous shock,					
<i>Physical.</i>					
Intemperance in drink, . .	795	122	23.5	13.4	21.4
Sexual excess,	80	29	2.3	3.1	2.5
Veneral disease,	41	8	1.2	.8	1.1
Self-abuse,	10	3	.3	. . .	.2
Over-exertion,	46	6	1.3	.6	1.1
Sunstroke,	94	3	2.8	.3	2.3
Accident or injury,	256	24	7.5	2.6	6.4
Pregnancy,	8	8	. . .	.9	.2
Parturition and puerperal state,	45	45	. . .	.5	.1
Lactation,	15	15	. . .	1.6	.3
Utero-ovarian disease, . .	12	12	. . .	1.3	.25
Change of life,	36	36	. . .	.4	.8
Privation and starvation, .	51	36	1.5	3.9	.2
Old age,	10	9	.25	.1	.45
Other bodily disease, . . .	352	111	10.3	12.2	10.7
Previous attacks,	162	68	4.7	7.4	5.3
Heredity,	490	175	14.3	19.1	15.4
Congenital defect,	4	5	.1	.5	.2
Other causes,	38	6	1.1	.7	.1
Unknown,	991	297	29.3	32.6	30.0
Fevers,	12	1	.35	.1	.3
Total,	3374	910	12.65	3.25	7.8

investigated by him, equaling 34.7 per cent. He, however,

embraces cases in which the persons had passed many years since infection, and during which other and very efficient causes may have been in operation.

According to the same authority, **intemperance in the use of alcohol** had existed in 37.6 per cent., besides those cases in which it may have existed as a symptom. Fifty-eight* out of 643 cases had experienced **injuries of the head**. (May not the injury in some of these cases have been a consequence rather than a cause, the result of disordered processes pertaining to the vaso-motor system?) Three were **congenitally feeble-minded** and four had had **previous attacks of insanity**. **Abuse of tobacco** was the cause in five cases and **poisoning by lead** in three. **Psychical causes** existed in 106 of the cases, and these were largely **reverses in fortune, grief, anxiety, and distress**, arising from unfortunate social relations.

In 74 of my cases, **syphilis** was known to have existed in only three; **service in military life**, two; **reverses in fortune**, ten; **intemperance in the use of alcohol**, seventeen; **sexual excess** in four; **overwork and mental strain**, eleven; **sunstroke**, one; **ill health**, four; **disappointment in love**, two; **climacteric**, one; **domestic troubles**, one; **epilepsy**, one; **injury to spine**, two; **parturition**, one; **tabes dorsalis** had preceded mental symptoms several years in one case, and **apoplexy** in one. **Direct heredity** on father or mother's side in fourteen cases, and **indirect** in eleven.

Back of all exciting causes, however, there must exist the predisposing one, either acquired or inherited, viz., that of a special dyscrasia or diathesis. This consists of a cerebral cortex, abnormally impulsive, easily impressionable,

* *American Journal of Insanity*, 1889.

and over-sensitive to disturbances of the vaso-motor system ; consequently abnormally subject to congestions and resultant excitement, with defective inhibitory capacity. Given such a basis, and numerous exciting causes will prove potent in the development of the disease which would otherwise have been inoperative.

Symptoms.—The mental symptoms of general paresis do not uniformly precede the physical. Indeed, there are numerous cases in which the latter in both motion and sensation are first in the order of appearance ; but as the changes in the character of mental activities, are generally those first noticed by both the lay and professional observer, and are those which call attention to the necessity of restricting the liberty of the individual, they should take precedence in the order of examination—the physical changes attending each period being presented with it.

In a description of the symptoms we may class them under three more or less distinctly marked stages of the progress of the disease.

First, the initial period.

Second, the pronounced period, and

Third, the period of decay.

Many cases, however, occur in which these periods are not distinctly bounded or separated from each other, and the conditions which may be described as pertaining to any one of them may pass over into the next in order.

Initial Period.—The *affective faculties* are generally the first to become changed in the character of their activities. The person is observed to be unusually sensitive to the effects of the ordinary experiences of life. This may show itself either in unusual good feeling and *exaltation*, or in *depression*.

If in the former it may be by the exhibition of an

unusual interest in matters which have hitherto received little or no attention, and in which he is not really concerned, while the duties and occupations which have been followed for years receive only a fitful and irregular interest. The person intimates to his companions, or to the members of his family, that he is about to accomplish something of vastly greater importance than he has ever done before, and at the same time he is utterly careless as to the necessary means by which it is to be done. At other times he boasts of his physical strength and of his ability to cover long distances in an incredibly short time; again, of his importance and position in society, and becomes unduly familiar with persons whom he knows little of; he becomes easily excited, irritable, and uncertain in his mental states, with inability to apply the mind long at a time to any task.

When work is undertaken it is done in a slovenly and imperfect manner, without apparently any appreciation of the failure by the patient himself. He goes from one thing to another, is changeful and irresolute, his mental state at any point of time is quite in contrast with what it may be the next hour. The irritability may at times become so exaggerated as to lead to abuse of wife and children, and to acts which border on violence. Unusual explosions of temper may appear at intervals for years prior to the pronounced symptoms, all of which indicates that a change in character has occurred, though at the time it is little thought of by the friends.

In other cases there may appear an unusual mental acumen and facility of expression; they converse with greater fluency, and use language with more ease in expression than ever before; are readily pleased, or quickly take offense when none was intended, and for such trivial causes

as would formerly have received no attention. At other times the mind gives evidence of increased ability to accomplish work ; mental operations are quickened, and the imagination is more than usually active and brilliant, but only for limited periods, which are quickly followed by weakness and lassitude.

Other patients during this period become more or less careless as to dress and as to the claims and needs of their friends or families, thoughtless as to the future, more lavish in the expenditure of money for articles of little value and objects of small importance, and are over confident as to matters of uncertain issue.

In case the change at first assumes the form of **depression**, which is generally the case, it is of a mild character, and partakes more of hypochondria than of melancholia. Patients have periods of being unusually silent, often shed tears without apparent cause, and are not easily roused to take interest in their ordinary occupations, or in anything else. Sometimes there exists, at least in some degree, a realization that they are not well, and that they have lost their power of mental application, and their interest in and love of friends. They speak of this change freely, acknowledge that they feel badly, regret it, and thus excuse their neglect to attend to duties and their exhibition of irritable feelings and frequent explosions of bad temper. The memory gives indication of slight impairment ; the person is forgetful of appointments and careless as to personal appearance and dress. Such cases not unfrequently consult the physician and explain in some measure their changed condition, though more often this is not realized or appreciated.

In addition to the above somewhat obscure mental symptoms, which are rather suggestive than pathognomonic,

there may exist certain physical ones, which will tend to assist and confirm the diagnosis. One of these is a pain, not of a severe character, affecting the frontal and sometimes the parietal regions of the head. This is not usually so acute as to greatly annoy the patient, or at first to prevent his attending to business. Indeed, he rarely complains or speaks of it unless questioned, and then will admit that he has experienced it at times for months or for a long period. Two patients, which I have recently seen with other symptoms of general paresis, say that they have experienced such pains in the head at frequent periods, one of them during several months and the other for two or three years.

The wife of a general parietic, who is in the Retreat at the time of this writing, in detailing a history of the case said that for several months prior to the marked indications of mental derangement he had been unable to attend to business, and had exhibited so much restlessness that the family physician was consulted, who said that he had "malaria," and prescribed large doses of quinine. She afterward went with him to the South, where they remained traveling about nearly three months. She often noticed at that time "a difficulty or hesitation" in pronouncing some words, but attributed no importance to it. This patient soon after his return home, one night suddenly became greatly excited and maniacal, which led to an examination by an expert, who at once explained the character of the disease to his family.

All these indications of disease, however, often vanish in the presence of any excitement, and not infrequently in that attending the first visit to the physician. Besides, it will prove quite impossible to obtain such a medical history in the large majority of those cases which occur in the lower

ranks of life. These initial changes, especially the physical ones, are so obscure that they have not been noticed, and in consequence of the character of occupations, could not be by non-professional observers. Only the more pronounced and easily recognizable ones which occur later on in the progress of the disorder can be recalled by friends and physician. It will be in those cases which occur among professional men, and those engaged in large business enterprises, that such a medical history as has been described may be observed, while in the larger majority of cases the friends will declare that nothing whatever unusual has been noticed in the mental or physical condition of the patient until within a very short period. When, however, inquiries are made, not infrequently it will be remembered that some of these obscure symptoms have appeared at times, for months or years, in the history of the individual.

The recuperation of brain energy which ordinarily occurs during the periods of rest, diversion, and sleep is in partial abeyance; the vaso-motor system is disturbed in its functions, causing a more or less irregular circulation in the brain cortex, and hence the mental functions common to it become irregular and in some degree abnormal.

LECTURE XXVI.

GENERAL PARESIS. (CONTINUED.)

Symptoms Become More Pronounced in Character—Increase of Irritability and Excitability — Egotism—Self-confidence — Extravagance of Projects—Sexual Excitement—Change in Moral Character—Failure in Memory—Mental Obtuseness—Insomnia—Depression not Unfrequently Present —Physical Symptoms —Vertigo —Incoördination of Gait—Tongue—Articulation—Spinal Symptoms—Disturbances of Circulation—Importance of Recognizing Early Symptoms—Symptoms of Pronounced Period —Excitement—Impairment of Judgment—Dementia—Memory—Attention—Inability to Combine Concepts—Delusions of Great Wealth and Importance—Hallucinations—Emotional States.

We now approach another stage in the development of what are usually described as the **prodromatous symptoms** of general paresis. In this period a process of evolution in the changed conditions of mind and body which have been hitherto obscure appears to have taken place; they all become more or less pronounced in character, and others arise in connection with them.

While it is difficult to present a description or picture of the symptoms which will hold true as to the patient from day to day, for the reason that they are constantly changing in degree of intensity, and, in some measure, in character, yet certain characteristics may be indicated which will be found existing more or less in all cases if not at all times.

The tendency to increase of irritability and excita-

bility, has been already alluded to as existing among the primary indications of change in mental character. This excitability becomes more marked as the disorder advances; the patient walks with greater energy and for long distances without definite purpose or appreciation of what he is doing; he becomes impatient of dictation or control, and assumes to give orders to others; becomes excited if he cannot compass his desires; punishes his children with brutality, and sometimes threatens violence to others.

In connection with this state of irritability there often exists an unusual **egotism** and **self-confidence** which leads to new enterprises and large undertakings. In the case of a patient brought to the Retreat several years since, the friends stated that the first act which really aroused attention to the patient's altered condition of mind was the ordering a carload of potatoes, when he went to the market in the morning, instead of a bushel, as was his usual custom. When remonstrated with he became violent and threatening in language, talked loud, and declared that he was not to be dictated to in providing for his family, which, by the way, consisted of himself and wife only. There can be no doubt that this very marked change had been preceded by many others of a less pronounced character during months and possibly for years.

Another patient recently brought to the Retreat had been regarded as well until within a few days; during this short period he had managed to squander the larger portion of a moderate fortune by unwise trades, and had undertaken to contract for the building of a hundred houses in the little village where he resided, with the view of a fabulous income from their rental. He was also negotiating for a steamer with which he intended to make a voyage to India (he had formerly been engaged in trade in China,

and owned ships, or an interest in some) with one thousand of his friends as invited guests, all expenses to be paid by him.

These extravagant projects, which are connected with delusions of self-importance and grandeur, often lead to loss of property, excessive brutality, and boastful conduct, while there still exists an appearance of sanity, and before the condition of the patient is appreciated by friends.

This exaggerated egotism, self-confidence, and excitability, which doubtless arises as a reaction from a former state of dullness attended with a diminution of functional activity of the cortex, or from impairment in the inhibitory centres, may manifest itself in other ways. The patient indulges in alcoholic excesses, invites friends or strangers irrespectively to indulge with him, and insists upon settling the expenses in the most lavish manner. In other cases the sexual centres become abnormally excited, and the patient begins to make love to the servant girls in his own house, and almost in the presence of his wife; or, again, may leave his family and make proposals for new alliances or marriage with the street girls of the city, and in case he is unmarried, elope with one of them, while in conversation he becomes coarse in language and manners. A change in the moral character sometimes appears several years prior to the more marked and definite symptoms. Friends not infrequently infer that such a course of conduct in relation to alcohol and venery is the cause of the subsequent disorder, when in reality it is only an indication of a modification in the normal activities of the brain which has been going on for a considerable period.

On the other hand, there may exist a partial or entire loss of sexual ability. This state had existed in a case which is under my care at the present writing during some

months prior to his admission, and was among the earliest indications of disease as afterward recalled.

The change in moral character may manifest itself in other ways, as in deception and motiveless lying, or in the purloining of articles of little value. A patient formerly under my care, at an early period in the disease, was detected in taking some small articles from the counter of a store where he was calling and placing them in his pockets; this tendency became more pronounced at a later stage in the progress of the disease, and no occasion to indulge it was omitted by him. The articles could be removed from his pockets or the drawers of his room where he had placed them, and he apparently never missed them. He always affirmed in the most positive and imperturbable manner that he had paid for them, or that the articles had been presented to him by friends and had been in his possession for years. This patient, who was a physician, had married a mulatto woman two or three years before his friends instituted measures for his being placed under legal restraint.

The failure in memory, already alluded to, becomes more pronounced. This more often relates to recent occurrences or appointments, and is generally regarded by friends as mere forgetfulness or carelessness. The physician forgets his appointment with patients; the business man with his customers; the clergyman the day of the week and the hour he has assigned for a particular service. The failure in memory may be observed especially in relation to dates and numbers. The adding of columns of figures or making mathematical calculations becomes very difficult, as does the committing to memory anything heard or read. In consequence of this impairment, most serious mistakes regarding agreements and property not infrequently happen, which serve to call attention to the approach of disease.

With the failure in memory comes also obtuseness and dullness in mental activity. The mind no longer initiates or enters upon new lines of thought, study, or business. The power of attention becomes impaired, and what is addressed to the person is only partially apprehended and soon fades from the mind, all of which is indicative of the approaching confusion of ideas and dementia, which will ultimately be one of the most marked *indicia* of the disease.

Insomnia is very common as the early symptoms progress in their development. This is not attended with any anxiety on the part of the patient in consequence of its experience, but, on the contrary, he pays little attention to it, rarely complains of any disagreeable feeling, and refers to it, if at all, as of no importance. In some cases in which the sleep is broken and scanty at night there may be drowsiness during the day.

In contrast with the state of self-importance and excitement, there may exist in a certain proportion of cases, **mental depression** attended with loss of self-confidence. Patients become sad, unhopeful, inclined to shed tears, and experience a foreboding of something terrible about to happen to them. These conditions may increase until a true melancholia appears to be the leading feature in the mental state. This depression appears to be quite identical with that of ordinary melancholia, and the diagnosis of such cases will depend upon the history, as presented by friends, together with physical symptoms. It is not unfrequently attended with more or less uneasiness or positive pain about the epigastric region, indicating some lesion of the great sympathetic nerve.

Dr. James S. Kiernan* presents a table of thirty-four cases

* *Alienist and Neurologist*, January, 1885, pages 65 and 66.

in which depression existed as an "early mental symptom" in thirty-two. This is certainly a higher proportion than has existed in my own experience, though according to the statement of friends it has existed in from 50 to 60 per cent. As the disorder progresses so as to attract the daily attention of friends, the leading characteristic becomes one of irritability and excitement in the great majority of cases.

Physical Symptoms of this Stage.—The late Dr. W. B. Goldsmith* says that **epileptoid seizures** in some form had existed in twenty of the one hundred cases which had been under his observation as one of the earlier indications of approaching general paresis. This is a much higher per cent. than has existed in my experience, such seizures being confined almost entirely to the third period of the disease.

Vertigo.—There is a case under my care at the time of this writing, in which the first indication recognized by the patient himself or his friends consisted in an attack which was described as "vertigo and slight faintness," requiring the patient, who, at the time was engaged in his store, to sit down for a few minutes. He, however, did not lose consciousness, soon arose, and going immediately to his physician explained the character of the attack. He experienced no other of any kind, and appeared to his friends to be in his usual state of health during several months. Being somewhat over-heated and fatigued at his place of business, in the month of June, he laid down for a sleep in mid-day. After a short time he awoke in a delirious condition, in which he continued, a part of the time greatly excited, during three or four weeks. The delirium and excitement then gradually passed away, leaving the mind at times

* *Archives of Medicine*, August, 1883, page 50-57.

confused and with **delusions of importance**. He has had no attacks approaching the nature of an epileptic form of seizure, or loss of consciousness, or even vertigo, to the present time, a period of nine months, though other symptoms are well marked.

Dr. Mickle* says that "vertigo, whether slight or severe, and occurring independently of gastric disorder, is not at all rare at this preliminary stage."

An impairment in **coördination of gait** appears so plainly as to be readily observed in a small proportion of cases before the mental symptoms are pronounced. In a case under my care several years since, the wife told me that this had existed to such a degree that when walking upon the sidewalk with her he would at times require her support to prevent his staggering against those whom he met. When alone he generally went near the fence, so as to support himself if necessary, as it often was. This character of gait had existed several months before any change in his mental condition was observed and he was brought to the Retreat. *Tabes dorsalis* was not a prior condition in this case, and the disease was in no other wise exceptional in its course or symptoms.

In a much larger per cent. of cases there is observed a failure in the finer movements of the tongue, in articulation, and also in the manner of its protrusion. This is done by a sudden movement, and then it is almost as quickly withdrawn. An unusual effort to keep the tongue extended appears to be necessary, and the patient requires several invitations before he will keep it out long enough to be carefully examined. When it is fully protruded, there will often be seen a twitching of the muscular fibrillæ of the surface. Such a movement on the surface may, how-

* Mickle on "General Paralysis of the Insane," p. 9.

ever, exist in other conditions than that of general paresis. The difficulty in articulation will be observed more particularly in the effort to enunciate words beginning or ending with consonants and those containing a number of consonants.

When spinal symptoms appear first in the course of the disease, patients often complain of neuralgic pains in the head and neck, and about the loins, and in the legs, attended with cramps of the muscles of the soles of the feet and calves of the legs. In the case of a female patient at the Retreat, such pains, according to the statement of her husband, had existed at times for six years before the mental symptoms appeared. Whenever these pains subsided, as they frequently did, there occurred numbness, and at times loss of sensation in feet and ankles. The ataxic gait had been present during several years. It does not appear that the anæsthesia in this case preceded the motor disturbance as a primary symptom. It certainly remained a prominent one for months after the mental symptoms were pronounced, and a pin could be inserted without causing the slightest pain.

In other cases there may occur disturbance of the circulation, palpitations, heat in the head, a congested state of the capillaries of the face, or ringing in the ears. I infer from my own experience that these symptoms are less common than many others in the earlier stage, though they often appear later.

The character of the initiatory symptoms will depend, at least to some extent, upon the etiology of each case. This will be true especially in those cases resulting from injuries to the brain and nervous system, sunstroke, and poisoning by lead, and also when the disease is preceded by tabes dorsalis.

It will be observed that so far in our enumeration of primary mental symptoms none have been described which appear in the classical literature of general paresis as pathognomonic. Moreover, nearly all cases in which the law interferes and restricts the liberty of the individual have progressed to another stage and exhibited symptoms of a much more pronounced character. The general practitioner, therefore, who searches for those conditions only which constitute its typical character, as described by Skae, Calmeil, and the earlier French authors, will utterly fail in forming a correct diagnosis. Yet the importance of a recognition of these early indications, both from a medico-legal as well as a social point of view, can hardly be over-estimated. Fortunes have been squandered, public trusts betrayed, positions of influence, which have been secured as the reward of years of faithful service, have been lost, morals have been outraged, and family ties sun-dered, all before the true cause has been understood.

Pronounced Period.—The initial period varies greatly in duration in different cases, in some covering several years, and in others a few months, or even weeks. This will depend largely upon the exciting causes and the inheritance of the individual. Whatever has been the length of time, however, since a change may have been observed, it seldom happens that the patients are placed under asylum supervision until the occurrence of some act, or a series of acts, which are manifestly so abnormal and foreign to the previous character as to make this step necessary.

In some cases this will consist in an outburst of excitement or the undertaking of some great financial scheme; in others an inability to be longer interested or occupied in former pursuits and a consequent vagrancy; in others still, the commission of some moral delinquency, such as a theft,

embezzlement of funds, or an indecent exposure of person in public, or an attempted outrage upon some female. Dr. Kiernan has cited the case of a professional man who was arrested for indecent exposure, fined by the court, and after release retired from the immediate presence of the courtroom and repeated the offense. But in whatever form of conduct this may appear, it is of such a nature as to indicate a profound change in the mental state of the individual, and, more often than otherwise, **incapacity and impairment of judgment**. Indeed, so generally is this the leading character of mental change that some authors have christened the disease **paralytic dementia**.

The **dementia** of the second period of general paresis is of a special order. It does not consist so much in an absence of mental activities, as in an impairment of their integrity. There is not an absence of, but a diminution of, mental activities, and a weakening in their character. The inhibitory centres are in a condition of partial paralysis, and both language and movement are characterized by little restraint, and eventuate in what appears to come from the instinctive or acquired habit of the brain. Ideas are disjointed, confused, fragmentary, with little or no coördination or logical sequence.

The **lesion of memory** appears to be one of the most important elements in this impairment of mind. This is largely of the same nature as pertains to old age. It does not relate so much to those experiences which occurred fifteen or thirty years before, or during childhood, as it does to the occurrences of yesterday or those of an hour ago. Some patients will relate correctly the happenings of long ago, unless it may be their date, and yet be utterly unable to tell whether they have had their dinner or what is the day of the week. One may recognize the face of the

friend of years ago, and yet cannot possibly say he has ever before seen the face of the physician who visited him in the morning. He has no recollection of having incurred a debt, or of having paid the bill, or of its amount, and therefore "could be cheated ten times a day, if nine were not sufficient for your purpose."

As capacity of **attention** is essential to integrity of memory, we could predict a lesion of this as having existed prior to that of memory. In this second period it becomes more and more difficult to secure continued attention, and consequently the accomplishment of any trifling task or even the writing of a letter becomes greatly more difficult. The patient may be engaged in recounting some vague delusion of personal importance or of vast wealth, and yet be diverted by the slightest occurrence. The mind, however, if left to itself, again soon reverts to the delusions which appear to be floating in the field of a semi-conscious condition of the brain. At another time the patient may be occupied in removing his clothing or that of some other patient under the impression that it is his own.

The dementia manifests itself not only in lesion of memory and the capacity of fixed attention, but also in inability to normally coördinate mental concepts. Instead of a combination and unification of these concepts into ideas and judgments which would be normal to the brain, they become fragmentary, improbable, and absurd ones. When the suggestion of money or its equivalent reaches the brain, it becomes expanded at once into the delusion that the subject is the happy possessor of great riches. The possession of a few pebbles, bits of glass, or old buttons in his pocket makes him the owner of untold wealth. The sight of a child leads to the belief that he has a family of the most lovely ones that have ever been born. The mention of a

political office awakens in his mind the belief that he has had, and still has, some of the highest which are within the power of his fellow-citizens to bestow. He at once becomes the Governor of the State, or the President of the United States, or an Ambassador to some foreign court, where he will be happy to present you to the Emperor or Queen.

At other times the bits of glass become diamonds, and his benevolence boundless. He intends to make the largest benefactions to all friends and relatives, erect hospitals for the sick, and libraries for the free use of everybody. There will no longer be need of suffering or ignorance, which will have an existence only in the memory of by-gone days. These pleasing delusions seem to be glorious realities, and are recounted again and again with a countenance beaming with self-satisfaction and joyousness, and yet with a stammering tongue and half-paralyzed lips, to any passer-by who will listen to the story. They will depend as to their material largely upon the antecedent experiences and education of the brain; those of the ignorant or uneducated person will cover a field which will be totally foreign to the disciplined mind of a professional man, but the essential character of expansiveness and largeness belongs alike to both.

A pleasing **sensation** becomes magnified a thousand fold. The patient is the happiest person in the world,—has never been in such perfect health; he weighs one thousand pounds; is eight feet in height; has walked one hundred miles with his attendant this very morning, and carried the world with ease on his shoulders; and yet to-morrow may become emotional, irritable, fault-finding, and changeable. With tears and painful anxiety, he will tell you that his wife has left his home, and it is of the first importance

that he leave by the next train ; or again, that his children are dead, his house burned to the ground, and his wife locked up in the State prison, or that she is a fugitive with some scoundrel who has seduced and inveigled her from her home. He is positive that this is all true, for he saw it with his own eyes last night. At the next visit you shall find the patient with some book or a newspaper in his unsteady hand which he has been fumbling over, but not reading. He greets you with an affectionate welcome ; a pleasant look is on his countenance, and he makes no allusion to the strange story he told you in the morning. That sad vision seems utterly to have faded from the brain, and now he is serene and laughs at nothing, with a silly, imbecile laugh which causes the half-characterless face to become, if possible, more characterless still. All is now well with him again ; he has not a care in the wide world, and you are his best friend.

On another occasion the patient will confidentially tell you that he has adopted a son and heir to his fortune, and leads you to a primary dement, who he declares is a very Apollo in beauty ; he smooths his hair, brushes his coat, and assists in putting it on, and then goes with him for a walk on the lawn or to the chapel. He sits beside him and lifts his drooping head and gazes upon his idiotic face with as much of rapture as he is capable of feeling. After the chapel exercise is over, he buttons his coat for him and leads him carefully back to the hall, and yet in a short time he has ceased to remember that he ever expressed the slightest interest in him.

In some cases the sensory system becomes largely affected, and the mind of the patient is absorbed by **hallucinations** of some of the special senses. He walks back

and forth in the hall with eyes intent upon an imaginary vision of some face or person, with whom he holds converse; again he rushes to the window and talks with some one outside; and at another time he holds long conversations with the clock on the mantel, whose ticking he believes to be the sound of a voice whose subject is concealed within it. He is delighted with the charming sounds which respond to him, and fully believes that all is a reality, and yet forgets it on the slightest intimation from an attendant that he is ready for a walk around the court or a ride to the city.

The character of hallucinations, like the other symptoms in the emotional general parietic, frequently changes. The patient who to-day has seen his wife and children, and carried forward a delightful conversation with them; may to-morrow tell you that he saw them scattered from their homes and among strangers. To-day he sees the bare walls of his room hung with priceless pictures from the studios of the greatest living artists, and to-morrow he will tell you that he sees nothing but horrible daubs on them. To-day he hears music which is being made for his special delectation in the next room, and to-morrow he will tell you that during the night he heard the sobs and groans of his poor children coming from the same room.

Hallucinations of sight and hearing, according to my experience, are the most frequent in the pronounced period of general paresis. Hallucinations of **smell** have been rare; while those of general sensation have been confined almost exclusively to the later periods, except those relating to the sexual organs. In a report of the private asylum at Ober Darbling, Austria, mention is made of an investigation on the subject of hallucinations among general parietics, with the result that they were found in only

twenty out of 194 cases.* This is a considerably lower percentage than I have found in cases at the Retreat.

And here it may be noted as characteristic of the emotional general paretic, that his conduct is at entire variance with the delusions which have occupied so large a place in his mental operations. All the grand offices he has occupied or is about to possess; the billions of golden sovereigns he has on his person; the lovely children he is the fortunate father of; the visions of charming faces with which he has held converse; the horrible scenes of his night-waking hours, in which he has seen his home burglarized, his wife taken away and ravished in his very presence, and his children orphaned or dead,—all these pleasing or horrible visions, with kaleidoscopic movement, vanish, and he will be as happy or miserable as if he had never experienced such delusions and seen such visions.

* *Journal of Insanity*, p. 392.

LECTURE XXVII.

GENERAL PARESIS. (CONTINUED.)

Depression—Much Less Common During the Pronounced Period than Exaltation and Elation—Melancholic Symptoms May be Present—Periods of Excitement—Illustration—In Some Cases Neither Excitement nor Depression Exist—States of Elation May become Changed by Suggestions—Extravagance of Delusions—Physical Symptoms of the Pronounced Period—Tongue—Lips—Muscles of the Face—Handwriting—Epileptiform Seizures—Corpulence—Gait—Eye Symptoms—Period of Boasting—Increase of Dementia—Paralysis—Sphincters—Convulsive Seizures—Bed-sores—Bone Fractures—Case.

Depression.—In my own experience the symptoms of depression and melancholia have been comparatively rare in the pronounced period of general paresis, and yet, at the time of this writing, there are two such cases in the Retreat. According to the statements of friends, one of them had never presented symptoms of excitement or exhilaration prior to his admission, and since then the mental state has been one of depression. The hallucinations and delusions partake of this character, and render him exceedingly suspicious. He says that he sees persons entering his room at night, sometimes by the windows, and at others by the doors, and he is confident that they are his enemies, that at times they take a camera into the room for the purpose of securing a photograph of him. At other times they pound his feet and legs until they become black and blue, and in evidence of this he begs you to examine them

for yourself. At other times he hears them shouting at him and defying him to come out and defend himself if he is able. During the day he believes that these persons are the attendants of the hall, who have been in the habit of disguising themselves at night for the purpose of annoying and injuring him. On many occasions, under the influence of this suspicion, he has endeavored to be avenged by stealthily approaching them with a chair in hand, while they were engaged, with the purpose of striking them. When remonstrated with, he freely says that he would like to kill them, that they have haunted his rooms, persecuted and insulted him long enough, and he is unwilling to endure it longer. This patient experienced an epileptoid seizure soon after his admission, and remained in a partial hemiplegic condition for nearly three weeks.

General paretics sometimes present symptoms which are characteristic of melancholia. They refuse to take food lest it shall never pass from their bowels, or they refuse to go to the water closet lest they may contaminate it, or somebody who may be near it; they urinate in their rooms at night or out of the open window; they are silent, dejected, and mutter to themselves in some manner expressive of regret or remorse, and apparently suffer more or less physical discomfort in the epigastric region. Such conditions, however, are generally confined to the initial period, rather than to the pronounced stage, and when present alternate with a state of mild exaltation.

The passage from the initial to the pronounced period occurs in many cases by an explosion of **excitement**. The patient leaves his home, makes contracts for immense business undertakings, insults females in open day on the street, orders a cloak for his wife which is to be covered with diamonds, or purchases the entire contents of a

jewelry store, and when arrested or interfered with, he bursts forth in a torrent of denunciation and abuse of every one who seeks to restrain him. Neither wife, children, nor friends produce the slightest effect in their efforts to reason with him. The subject of his talk is nearly always burdened with expansive delusions, which relate to himself and what he is about to do for others, and yet, as in conditions of mind already referred to, the element of change is always observed. There exists no logical sequence of ideas; any one has no immediate connection with that which has immediately preceded it, nor does it suggest what will follow, and, indeed, may be entirely, contradictory. It is true that all considered together may appear to be the outcome of a semi-realized delusion of great wealth and of vast importance, but the individual concepts used to express this delusion have very little, if any, relation to each other.

These attacks of maniacal excitement are seldom of long continuance, rarely extending longer than a few days or weeks, and sometimes only during a few hours. But while they continue they constitute some of the most anxious periods which ever occur in any form of insanity. Patients sometimes do an incredible amount of injury in a very short time, which may relate to property or persons. Houses are burned, windows and doors are smashed, furniture destroyed, and wife or children may be killed. If in an institution they will attack attendants if sharply or suddenly contradicted or interfered with. They are without appreciation of their surroundings, and hence are without fear, and will struggle and fight with ten men as readily as with one when once aroused to a conflict. And yet in the midst of the highest excitement the skillful attendant will often succeed in changing the current of delirium and

modifying the excitement by suggesting some other subject of thought.

As illustrating this point I may mention an occurrence which took place in one of the halls of the Retreat. On the occasion of a visit to the hall, in which there was a general parietic in the early stage of the pronounced period, I found him striding from one end of the hall to the other in the wildest condition, and shouting forth a storm of oaths, denunciations, and incoherent language. All indications of physical impairment had left him, and words of one kind and another poured forth in a continuous stream. After a short time he saw me observing him, and at the same time seized a settee so heavy that he could with difficulty have lifted it while in his ordinary condition, raised it in the air, apparently with perfect ease, and with the intention of dashing it through the guard of the window. His attendant, who had been near him, observing every movement and waiting for the storm to pass by, immediately stepped to his side, put his hand on his arm, and in a quiet voice, and in a perfectly self-possessed manner, said something to him which seemed to act with the magic of a charm by distracting his attention. Within thirty seconds he was assisting his patient in placing the settee on the floor, upon which they immediately sat down, while the attendant became a profoundly interested listener to the recital of some train of delusional talk.

Such attacks have rarely occurred in my experience except during the pronounced period of the disease, though they may be present at a later period. They, however, become modified and limited in intensity as the disease progresses.

There are other cases which are neither excited, depressed, nor emotional. They are perfectly calm, make no

requests or complaints, express neither satisfaction nor discomfort, but seem to accept the present conditions with little or no realization of their meaning, and with no care for a different order. A patient who recently died at the Retreat exhibited this character of symptoms from the time of his admission. He had conducted a large business, and necessarily associated with many persons living in different sections of the country. He had been fairly successful in his way, and accumulated a considerable property. Yet after his admission he never referred to his past experiences or inquired for his former friends. When his relatives called to see him, as they occasionally did, he replied to their inquiries at times correctly and at others incorrectly. He never expressed pleasure or displeasure on the occasions of their visits nor requested them to come again. He would never write or take interest in letters written to him. He was always unwilling to leave the hall where his room was for exercise or for any other purpose, but was accustomed to spend the time in looking from the windows upon the lawn, or in walking from one end of the hall to the other in a slow and measured manner. Some two or three months after his admission he appeared to lose his personal identity, and when addressed by his name would correct the person and say that his name was Johnson. This seemed to impress his mind so strongly that ever afterward he would become angry if he was addressed by his own or any other name than that of Johnson. After a residence of sixteen months, during which time he never, so far as is known, expressed a regret or pleasure, he experienced an epileptiform seizure of a serious nature, from the immediate effects of which he did not recover.

The above case was unusual in the almost total absence of emotional expression or desire, but cases simulating it in

character, though less pronounced, are not rare. The loss of personal identity has always, in my experience, except in this case, been associated with delusions of grandeur, and is often changing from that of one person or being to another. If a patient loses his identity he becomes some person or being of vast power and influence. Indeed, it is not uncommon for patients to conceive that they have Omnipotent power and are possessed of the attributes of the Deity. In but one case of depression or of indifference has this form of loss of identity occurred in my experience.

It is characteristic of many patients that when the prevailing emotion is one of elation they can be made to weep by merely suggesting a mournful thought or some sad occurrence. The rehearsal by patients of the vivid experience of a disagreeable dream of the past night, in which their children or friends appeared to be in danger or disgrace, may wholly change the mental state from one of great elation to one of deep depression and sadness for the time being.

It may be added that in no other form of mental disease does the character of delusions, whether they are those of elation or depression, assume such preposterous extravagance, and with absolutely no basis of reality, as in general paresis.

Another case resembling the above in some respects was admitted to the Retreat in 1879. He had been employed as a traveling salesman, and had been regarded as in good health until his return home on one occasion, when he appeared a little dazed and unable to give an account of himself, except that he had been robbed in a sleeping-car in New York. It was soon ascertained that the memory was seriously impaired, so much so that he was unable to tell an occurrence ten minutes after it was past.

At the time of admission he had a good-natured, facile, satisfied, don't-care air about him; had no objection to remaining as long as we should choose, though he left a sick wife and a little five-year-old daughter dependent on friends for support. He had no impairment of gait, never had been excited at any time, but, on the contrary, was eminently quiet, good-natured, and satisfied; used to see his wife and children often, but never alluded to returning home with them, nor seemed anxious about either them or himself. He had some of the well recognized indications of general paresis, *i. e.*, epileptiform convulsions, defective articulation, peculiar and flaccid expression of face, impaired memory and weakening of the mind, entire satisfaction with everybody and everything. The twitching of muscular fibrillæ was present on the face and tongue, but the hands and legs were firm and steady, and he walked without difficulty. He had a convulsion as often as once a month after admission and finally died from the effects of one, having never been either excited, depressed, or emotional.

Physical Symptoms of the Pronounced Period.—All the physical symptoms which have been described as at times present in the initial period become exaggerated during the pronounced period. This is especially indicated in the motor disturbances of the tongue and lips in articulation, and in all the finer movements of the hands and fingers. When a little excited by meeting you, and during the first few minutes, the excitement may be sufficient to enable the patient to articulate so perfectly that no defect will be noticed, but as the attention is diverted the failure becomes apparent in some portions of almost every sentence, and is more noticeably so in sentences composed of sounds with sequential labials and consonants. When requested to repeat as a kind of test sentence—"Round

about the rugged rocks the ragged rascal ran," the patient starts off with large confidence, but will rarely get beyond the third or at most the fourth word which begins with an "R;" the tongue and lips utterly fail in the effort at co-ordination in pronouncing the words beginning with the same letter, and he brings up in confusion and yet smiling at his failure, having said, "Round about rug-rock" or "Round the rock the rug-rus," or again, "the Rugged rascal rascal ran." If asked to extend the tongue, he is unable to more than half protrude it from the mouth, or to hold it out long enough for an examination. It is often in a soft, flabby condition, easily indented by the teeth, and covered more or less with a creamy coat.

But the paretic condition is manifest not only in the motor disturbances of the tongue and lips, but also in the soft, puffy, smooth appearance of the whole face; it is the face which is so characteristic of chronic alcoholism.

The tense condition of the facial muscles, which is so essential in giving expression to the individual character of the person by means of the lines or wrinkles it causes to exist, becomes relaxed, and the countenance is changed and comparatively characterless.

The paretic condition is observed to have extended to the muscles of the hands and fingers, and becomes apparent in the execution of all the finer movements essential in playing a musical instrument or in writing. The patient will begin to write a letter in good earnest, and succeed in forming the letters of the first few words with some regularity by an unusual effort, but the hand soon gives evidence of weakness, the pen is not held steadily on the paper, the lines become irregular and tend downward or upward on the page, words are omitted, the ideas become confused and appear to fade from the mind before he succeeds in

getting them on paper, and the effort is soon abandoned. The patient will not try to write again until the result of this time has passed from the mind.

Some paretics, however, have a special inclination for writing so-called legal or diplomatic documents. The address and the first few words may be legible, but the writing soon degenerates into a mere, irregular, puzzling scrawl, and the page is half covered with blots and erasures. Very likely the signature at the close of the page will be the most irregular and illegible of all. When finished the bit of dirty paper which has been torn from a book or from an old letter is crudely folded or crumpled together, after an attempt has been made to address it to some high functionary or to the President of the United States of America.

Reference has been made to the infrequency of **epileptiform seizures** during the initial period. They are more common during the pronounced period, though less so than during the third period and toward the end of life. Head-aches are rarely complained of during this period, but a confused state of feeling in the head and vertigo are sometimes referred to. A congested state of the capillaries of the face, which at times extends to the scalp and which is due to vaso-motor disturbances, is often observed.

During the earlier part of the pronounced period patients are often restless and inclined to walk. If in the hall they continue by the hour to walk from one end of it to the other. It would seem that they had a premonition that the time was speedily approaching when they would no more be able to walk except with halting and difficulty; they therefore walk with their might while the day of their walking ability lasts.

My Dear Sir.
Stanford Conn.
November 11, 1899.

Your announcement
for the election of Officers

Major General, Peter Murray Davis.

Regul on Army.

under Command
Abraham Lincoln.
U-S Grant.
B H Harrison.

SPECIMEN OF HANDWRITING DURING THE FIRST PART OF PRONOUNCED PERIOD.

I should much
wished that
is I did yesterday
I hope to go
Home soon

Thomas

Terry

Wartford Conn 12/2/89

My dear Sir S. A. Frayser

Our annual meeting for the
election of officers will be held on the
10th of December

Fraternally Yours

In other cases the failure of coördination in walking becomes pronounced; the patient is uncertain of his balance and unconsciously spreads his feet to provide a broader basis on which to stand; when standing before you he moves, lest he fall, and if asked to close his eyes or look up to the ceiling at once begins to fall. Such patients rarely make the requisite effort to walk much, and are generally found on a chair or the lounge. A kind of clumsiness and want of elasticity in the walk are nearly always present in this stage.

One of the most constant symptoms during the latter portion of the pronounced period is a tendency to corpulence. The appetite is very keen and the patient takes an unusual amount of food at every meal. He is not so much interested in the quality as in the quantity placed before him, and as the period of restlessness and increased motor activity passes by the increase of adipose tissue becomes especially noticeable.

The group of **eye-symptoms**, some one of which is usually present during the progress of general paresis, is extremely interesting and of sufficient diagnostic importance to require special attention.

Both **inequality** and **irregularity** in the shape of the pupils are of frequent occurrence, though in a considerable per cent. of my own cases neither of these conditions has been apparent during the first stage.

A **persistent dilatation** (mydriasis) is not unfrequently present during both the early and later stages of the disease. I have at the present writing a patient whose pupils are unequal during some portion of every day, and the pupil which is the most dilated during the morning frequently becomes the smallest in the afternoon. Both pupils react sluggishly when exposed to the stimulation of sun-

light. The edges of the left pupil become irregular, so that the two sides do not appear exactly alike nor conform to the normal outline. In two of my other cases now under treatment the so-called **pin-hole** pupil was present during a portion of the pronounced period.

The state of the pupil does not appear to be affected by the mental condition, whether it be one of excitement or depression. One of the patients above referred to as having the pin-hole pupil at the same time experienced periods of great excitement. When irregularity is present it may appear in one or both pupils and frequently change.

In short, it may be stated that the pupils in general paresis sometimes present **inequalities** in size, **irregularities**, **abnormal dilatation** and **contraction**, **abnormal insensibility** to the stimulus of light, with **failure in accommodation**. Also that these different abnormal conditions of the inner muscles of the eye may be present singly or together, and also during any of the stages of the disease; that some of them are more frequent during the early stages, while others are more often observed in the later stages. It may be added that insensibility to light stimulation and loss of movement in accommodation are more frequent in those patients whose pupils are habitually contracted, though it may be present in both contraction and dilatation; and also that the small pupil which is frequently found in the early stage may continue to exist through the pronounced and final periods.

Of other eye-symptoms which are occasionally present may be mentioned:—

1st. Paralysis of the ocular muscles, resulting in strabismus. This occurs more often during the later portion of the pronounced period and during the period of wasting, and is attended with disorders of vision.

2d. A progressive failure of sight may occur. This may be partial and relate only to colors or distances, or it may be general and due to progress of disease in the optic nerve, and in some cases to increasing dementia. It may affect one or both eyes. It has been observed as existing during several months, and according to Foville several years, before any more definite characteristic symptoms appeared.

3d. Atrophy of the optic nerve has also been noted as among the earliest indications of approaching general paresis.

The Period of Wasting.—The duration of the pronounced period of general paresis varies very considerably in different cases, and extends from a few weeks or months to a year or longer. The transition from this period to that which has been termed the period of wasting is rarely sudden, unless it may be ushered in by an epileptiform seizure. On the contrary, it appears to take place gradually and by a process of involution, so far as pertains to the mental symptoms. It will be remembered that the passage from the primary symptoms of the initial period to those of the pronounced period was characterized as one of evolution; that is, the symptoms gradually became developed from a morbid state of mental action, which was really a prophecy of what they actually afterward became during the pronounced period of the disease. Now, in reaching the final period, an opposite process occurs, and there results an involution of these morbid mental activities. The mind becomes more sluggish in its action, the patient is less talkative, and the delusions when referred to appear less distinct in the disordered field of consciousness. It becomes necessary to question the patient in regard to them in order to ascertain that they

still in any measure remain. In some cases patients deny that they have them, or that they have ever entertained them, and will look at you with incredulity when told that they formerly held and talked about such delusions. In other cases they will still affirm their belief in them, but only as they are suggested; they appear to be half forgotten, and remain in the mind in a sort of latent state, the brain centres requiring some stimulation to call them forth. The hallucinations become less vivid and are rarely referred to, and suspicions have little of reality.

In case there has existed depression or excitement, mania or melancholia, or exhibition of abnormal egotism, all these conditions may largely fade away and the patient appear to be insensible to those stimuli which have acted heretofore to develop these abnormal forms of mental activities. He may appear improved in mind, and yet rarely, or never, allude to returning home in consequence of his improvement. He may not often realize that he has a home, or if he has, that he is not already in it. At times he believes that his room is his home, and as he looks from the windows that the grounds are his own. An Italian count was under my care a few years since, who, during the earlier portion of this period, was always insisting when I saw him that the Retreat was his old castle situated among the mountains of Italy, and that the grounds were a part of his hunting park; with his hand on my shoulder, and with stammering tongue and lips, he would insist that his hounds were in waiting, and that he would go with me at any time for a hunt through the forests. At the same time he could not take two steps without staggering about and seeming to be in danger of falling.

Finally, the recollection of even the oldest memories is at fault, and the mind becomes more and more unable to

fully realize and appropriate any of the impressions which reach it through the avenues of sensation. The patient takes little or no account of time or of present environments. Morning is as the evening, and one day as another. He asks for nothing because he does not suffer for the want of anything, and is entirely oblivious to the utter wretchedness of his condition. His mind has gradually gone down step by step toward a state of the darkest fatuity. He is literally beyond the need of human sympathy or aid, and thus stumbles on toward the grave which is awaiting his advent.

Physical Symptoms of the Period of Decay.—The patient, however, reaches this goal not through the agency of morbid mental activities. It has already appeared that there has been a gradual disappearance of these, excepting that of **dementia**. Such has not been true as to the physical lesions. These have become more and more serious through a continuous evolution. The incoördination of the muscles of the fingers, hands, arms, and legs has continued to become more pronounced, until it has reached a condition in which it is impossible to write a legible line or to walk from one end of the hall to the other. The ability to articulate words and form them into sentences has disappeared, and when about to make an effort to reply to any question, the corners of the mouth will twitch, the orbicular muscles contract in a spasmodic manner, the tongue moves, and the air passes over it, but there results an almost entire failure in all the more delicate movements of tongue and lips, which are essential to the articulation and full pronunciation of the desired words, and in consequence they coalesce, become mixed and jumbled together, and meaningless. This, however, does not annoy the patient, as he

fails to realize that he has not already succeeded in rendering the desired reply in a satisfactory manner.

The paretic condition gradually extends to other muscles, especially those concerned in the act of **deglutition**. The patient, therefore, will be in frequent danger of strangulation in his effort to swallow what is placed in his mouth, to satiate his morbid craving for food.

The sphincters also, sooner or later, sympathize in the general paretic and anæsthetic condition; the bowels frequently move several times daily, and the patient requires the utmost attention to render his presence in the hall endurable, and also to prevent the formation of bed-sores. In some cases there may occur retention of urine without the knowledge of the patient. The general anæsthetic state is so pronounced that the urine may accumulate to the amount of several pints without apparent inconvenience. The gradual dribbling of it on the clothes and while in bed does not entirely relieve the bladder. It becomes necessary in such cases to use the catheter twice at least every twenty-four hours. This, with a frequent change in the bed-clothes, will be one of the important means of preventing the formation of bed-sores.

The capacity of the organs of **assimilation** becomes impaired; the food received into the system fails to renovate the wasting tissues; the adipose which has been stored up during the preceding period, and which is of a coarse and flabby character, is now rapidly absorbed, and the patient daily becomes thinner in flesh, notwithstanding the enormous amount of food used. Indeed, the quantity of food wanted by some patients is phenomenal. Doubtless the craving for it is due to the irritation of the vagus at or in the vicinity of its origin.

The vaso-motor disturbances become much more fre-

quent during the period of decay. **Epileptiform seizures**, as has already been remarked, not infrequently usher in this period. This is especially noticeable, as the more active mental symptoms have disappeared, and the friends have begun to indulge in the possible hope of at least a partial recovery. These attacks generally leave the patient, after each successive experience, with an increase of paralysis and enfeeblement of mind.

The degree of severity of these seizures varies very greatly in different cases, in some affecting the face, or one side of it and the arm of the corresponding side, and also the leg, in others only one or more groups of muscles, while in others still they will resemble a true epileptic convulsion, from the immediate effects of which the patient never recovers. A case of this character occurred in the Retreat a few months prior to this writing. In fact, while the seizures are of a milder character in general paresis than in true epilepsy, yet there exists no distinctly diagnostic difference.

Several of these convulsive seizures, of either the milder or of the more severe type, may occur one after another, and the patient may continue many hours in an unconscious state; the face is livid or dark with venous congestion; the respiration is irregular, labored, imperfect, and attended with a congested condition of the lower and posterior portions of the lungs. In other cases the convulsions are so limited in range and severity that the patient remains wholly or partially conscious all the while, and appears to recover from the immediate effects in a short time.

There was a patient in the Retreat, five years prior to this writing, in whom the muscular spasm usually began in the left hand and traveled up the arm to the shoulder, and from thence down the side to the corresponding leg and

foot. The whole side then remained in a mildly convulsed condition during several hours, after which the convulsions gradually subsided. They did not cause the patient much pain, and frequently the consciousness was unimpaired, and he apparently understood what was addressed to him during the earlier period of the seizure, as indicated by the expression of the face. He was aphasic during the attack, and after the whole side became compromised he would give no sign of being conscious. The face and scalp became flushed, but there was no difference in the size of the pupils. Anæsthesia and partial or total paralysis of the side affected usually existed for several hours after the spasm had ceased. The patient lived about one year after the commencement of this unusual form of spasm. Before death both sides of the body became affected during each attack. The total number of attacks which he experienced was very great, and they extended over a period of two years before he finally died from their exhaustive effects.

These seizures not only tend to become more frequent toward the close of life, but often change in character. From being epileptiform they may become apoplectiform, and *vice versa*. The change from the latter form to the former is said, however, to occur only when the apoplectiform has existed at an early period of the disease. I have never observed this latter change of character in any of the cases which have come under my observation.

The **apoplectiform seizures** are more likely to occur in cases in which vertigo, flushings of the face, and headaches are complained of. They are frequently preceded by periods of sleeplessness, restlessness, and sometimes by maniacal attacks. They are attended with increase of temperature, congested state of the vessels of the face and scalp, dilatation of the pupils, turning of the head to one side or the

other, with noisy breathing, and often with local paralysis or hemiplegia.

They are generally succeeded by a condition of hebetude or partial lethargy, which may continue for several hours or days. There is also a partially anæsthetic condition of the system, and the patient is insensitive to his surroundings, noises do not disturb him, and he is indifferent as to the character or taste of his food and drink, which he often finds a difficulty in swallowing during several days succeeding an attack.

The apoplectiform attacks are not infrequently followed by hemiplegia, which is usually transient; when such attacks recur the same muscles are usually affected in each attack.

Baillarger, Mickle, Spitzka, and others have drawn attention to a form of **acute bed-sores** which appear after the experience of epileptiform or apoplectiform attacks. They develop quite rapidly, are much more persistent and severe in character than the sores which form on certain portions of the body simply from the failure of nutrition in the parts affected and from the frequent discharge of urine in bed. Without doubt they are due to trophic causes. On the reddened surface, which may appear over the lower portions of the spine or sacrum, the skin becomes of a dark hue, is swollen and turgid, and within a short time a slough of the integument occurs, while the tissues underneath are of a livid or dark color. A dark sanious discharge appears, and if it is not carefully absorbed soon burrows its way along the muscles and their sheaths, and down to the periosteum of the sacrum and ilia, and sometimes into the spinal canal. The edges of the ulcer are of a dirty white or ashen color, and are quite insensible to pressure or the knife. These so-called acute bed-sores seem to be quite

identical in appearance and behavior with those which I have often seen in wounded soldiers during the late War of the Rebellion, who had been long confined in hospitals and had become scorbutic.

In my own experience epileptiform seizures, of one form or other, have proved more frequently **the cause of death** than any other. It may occur directly from the severity of the convulsion, which exhausts the vital energies of the system, or it may come indirectly from disease of the lungs, which has developed from the congested state that was a result of the spasm; or, again, from the development of a comatose state, from which the patient never recovers, and which is probably due to ruptures of the capillaries of the brain and consequent effusions.

Bone fractures are more common in general paresis than in other forms of insanity. This may be due to impairment of nerve energy, which prevents the patient from responding to the necessity of guarding himself when in danger. He is certainly less sensitive to the effects of blows, bruises, and falls, and yet is much more liable to receive them, especially during periods of excitement. There may also in some cases exist an abnormal brittleness of the bone texture, due to absorption of the organic constituents. Fractures of the ribs are more frequent than of other bones. Cases are reported in which post-mortems have revealed the fractures of several ribs.

The following case, which I take from my record, will illustrate the ending of the third stage of general paresis. J. E. J., age forty-four. This has been one of the typical cases of the disease, and was brought to the Retreat in the initial stage, has passed through the general conditions of that and the pronounced stage, and now presents those of the final one. He is no longer able to walk or even to

stand, but lies in bed in the position in which he may be placed, being barely able to turn his body unassisted. Two months since he could walk about the halls and grounds, though with difficulty, and with a very staggering gait, stammering out that he had a large farm in Maryland with three hundred and sixty-five acres, and five hundred horses, and promised another paralytic, who was with him, a pair of splendid black horses with harness and corn to feed them, also that he would raise his father who had been dead many years, to life; said he had invented a steamer which would steam to Germany and back in four days, and another which would go around the world in a week; that he was the strongest man in the world, and could lift 175,000 pounds, was six feet and nine inches high, etc., etc.; but now he is unable to articulate more than a word or two at a time, his flesh is fast wasting, he swallows with difficulty, and is fed chiefly with liquid food; he defecates and urinates unconsciously in bed, but the expression of good feeling still lingers on his face, and he makes no sign of complaint and has no want to utter; when addressed he sometimes tries to reply, and even to smile a recognition, but does not succeed, and the semi-flaccid muscles of the mouth and face fail in their effort of movement. Only by the most careful attention can we prevent the formation of bed-sores. The system will assimilate less and less of nourishment, and become even thinner than at present, unless the drama shall soon end by a paralysis of the muscles of deglutition.

LECTURE XXVIII.

GENERAL PARESIS. (CONCLUDED.)

Remissions—Duration of—Relapses—A Case—Duration of Disease; Average from Three to Four Years—Diagnosis—Characteristic Symptoms—Importance of Physical Symptoms in Determining Doubtful Cases—These May Precede or Follow Mental Symptoms—Maniacal State of Alcoholism—Chronic Lead Poisoning—Morbid Anatomy—The Whole Cerebro-Spinal and Sympathetic Systems Affected—Diminution in Volume of Brain—Adhesion of the Pia to the Gyri—Disease of Vessels and Nerve-cells—"Spider-like" Cells—Ventricles—Spinal Cord—Treatment—Prognosis—Importance of Early Treatment and of Removal from Home to an Institution—Medication—Bromides—Tonics—Laxatives—Hypnotics—Lotions—Water-bed, etc.

Remissions.—We have now traced the more pronounced symptoms of general paresis, both mental and physical, in the order of sequence, which is more often observed. There are, however, some cases which are exceptions to this course. The involution of the more active form of mental symptoms occurs and the motor signs also largely disappear. Whatever indications of the disease still remain consist in a less degree of mental vigor than is normal to the individual, rather than a dementia, and some traces of incoördination in muscles or groups of muscles. The patient regards himself as entirely recovered and quite able to undertake the execution of any plan or project which his friends have suggested or proposed for him. The memory and power of attention during longer periods

have improved; he converses more intelligently and pointedly upon subjects introduced, and seems to have regained in some degree, at least, the ability to appreciate the force of any objections to plans suggested. The friends, therefore, insist that the patient has recovered, when it is perfectly manifest to the expert that such a condition would not continue a single month, or perhaps a single week, outside of an asylum.

There are other cases, however, in which the remissions become quite perfect, and all, or nearly all, the symptoms are in abeyance. Dr. Henry M. Hurd has reported a case of such remission after the patient had passed through the experience of a large carbuncle located over the cervical vertebræ. Dr. Sankey has reported a case of apparent recovery in which the patient remained well about sixteen months. Many others have reported similar cases. They occur more frequently after the patient has experienced a fracture, had boils or a carbuncle, or some form of intercurrent disease.

It would be a mistake to speedily remove such patients, whether the remission be partial or entire, from the care and supervision which can be had only in some asylum or home especially arranged for them. The friction incident to everyday life, with the attending necessity of self-control, even in the most favorable circumstances, entails a vastly greater strain upon the mind than a life wholly freed from care and responsibility. Besides, it is of the first importance that such cases should be constantly under medical observation, and in the majority of cases receive medical treatment for a long period after the advent of a remission. The more favorable the environments and care, other conditions being auspicious, the longer we may expect the remission to continue.

Still, the progress of the disease will again appear sooner or later, in the vast majority of such cases, even after the lapse of years, and not unfrequently is ushered in by an epileptiform seizure or an outburst of maniacal excitement, after which the course of the disease is generally more rapid than before. I say generally, because cases are on record in which there have occurred several such remissions. Cases also sometimes occur in which remissions relate chiefly to the motor symptoms, while the mental symptoms remain unmodified.

Only one such case has been under my observation. The physical symptoms, when again they appear, develop rapidly and follow the usual order of sequence.

In 1879 a case was under my care in which the symptoms were characterized by expansive ideas and projects, great restlessness, and some excitement, with moral defect, while the physical symptoms were quite obscure. After three months there occurred so far an abatement of the conditions that some of the friends insisted that a mistake had been made in the diagnosis, and that he did not longer require the seclusion and care of an asylum. He was accordingly removed and set at liberty. I am unable to report how long he remained unrestrained, but he very soon plunged into a life of speculation, became indecent in language, and most lascivious in conduct, and died in less than three years, of general paresis.

Duration.—One of the questions which are always, or nearly always, addressed, to the physician is, "How long is the patient likely to live?" A reply can be given only in a very general manner. One can be based upon the experience of the physician, or upon that of institutions. The experience of physicians and even that of different institutions will differ quite largely as to length of time.

In some it will be 15 months for men and 21 months for women, while in others it will be 20 months for men and 28 or 30 for women.

It will be necessary also to bear in mind that there exist frequent exceptions to any period of time. While some patients die within three or four months after they are placed under restraint, others live on from four to six years. In forming an opinion as to any given case, it will be important to take into consideration the past history of the patient in reference to **occupation, habits in the use of alcohol, sleep, and heredity.** Of these four factors, the last one will prove to be the most influential in determining the period of life in cases of a typical character. The patient may, however, die from the immediate effects of repeated epileptiform or apoplectiform seizures, which, of course, cannot beforehand be anticipated in any given case, or he may die suddenly from accidental suffocation in consequence of paresis of the pharyngeal muscles. After the symptoms have become pronounced, patients usually average from one to three or four years.

Diagnosis.—The diagnosis of typical cases of general paresis, or those which are usually found in the halls of asylums, is not difficult. This arises from the fact that usually the characteristic physical symptoms are present, such as muscular weakness, incoördination of gait, fibrillar twitching of the surface of the tongue and of the smaller muscles of the hands, local anæsthesias, epileptiform and apoplectiform seizures, etc. Where these physical symptoms are present it will be safe to diagnose the case as one of general paresis, even in the absence of the typical mental symptoms, such as the peculiar mental facility, loss of memory, expansive delusions, gradual deterioration, and

dementia. The presence of both physical and mental symptoms renders the diagnosis easy, and if these are once observed they will not be easily forgotten.

There are also other cases in which, though these somatic and psychic symptoms have not yet become fully developed, and are not apparent at the first examination, yet the diagnosis may not be doubtful. Upon repeated observation it will be found that there exists a change in mental, and even in the physical habits of the patient, and that this change is of such a nature that it points toward a future development of the usual conditions attending general paresis. This will appear in the loss of moral tone, a commission of some act which is foreign to the individual's past history, indisposition or inability to attend to ordinary avocations, with increase of motor activity, cephalalgia, and insomnia. While such symptoms alone are not sufficient to justify a positive diagnosis, yet in the absence of others, which would indicate other forms of insanity, they may be regarded as sufficient to justify a probable one.

But there are other cases in which the differential diagnosis may present difficulties, even to the experienced alienist. Among them may be mentioned those in which the mental symptoms predominate and assume a very acute form without correspondingly well-marked somatic symptoms. The states of mental excitement or depression which at times appear in general paresis do not at first view essentially differ in character from those which exist in mania, when very acute and of an exalted character, or from those of melancholia, when accompanied with delusions of persecution, and may entirely obscure the latter class of symptoms. Moreover, these mental states may appear at different times in the same patient, which will

tend still further to obscure the case. I have already referred to such, or a similar case (page 482), in which, during periods of excitement, and even in conditions of exaltation, the somatic symptoms, which at the best were very slightly developed, seemed to be wholly in abeyance. He was examined by competent experts frequently, and yet without their being certain that it was a case of general paresis, though it proved to be one. Such cases require repeated examinations, and when in different mental states. A history of the initial period of the disorder, its relation to heredity, social and business habits of life, slight dementia and failure of memory, attacks in which there may have been vertigo or loss of consciousness for short periods, will prove to be of essential service in clearing up the diagnosis. Reliance may also be had upon any slightly developed physical symptoms which may appear during periods when the patient is comparatively free from excitement, and especially after prolonged exercise, such as hesitation in speaking, an occasional slurring of syllables in a word, or in twitchings of the orbicular muscles, and a change in gait. In the total absence, however, of any such indications, it will be necessary to defer the diagnosis for further consideration, and this may be for several months.

It may be added that a diagnosis in such cases is often of the first importance, as it very likely will determine the necessity, or otherwise, of adopting the requisite measures as to the care or disposal of property. On the one hand, if the case is one of acute or congestive mania or melancholia, there would exist a reasonable probability of a recovery under treatment for a few months, and no such measures would be necessary or desirable; on the other hand, if the case is one of general paresis, the certainty of a fatal termination at no distant day might necessitate a different

course of legal procedure, in order to protect property and family interests.

Again, we occasionally meet with cases in which the conditions are reversed, and the physical symptoms are pronounced, while the mental are obscure. It is not many years since it was a much debated question whether the physical ever preceded the mental symptoms in the order of appearance. German authors advocated the affirmative of this question, while many English writers claimed that although there may be neither excitement nor marked depression, yet it is always true that patients exhibit evidence of such mental weakness and loss of tone as uniformly precedes the characteristic dementia of general paresis, and that when no change in the mental character is to be found, the cases are not genuine. There can be little doubt, however, that in some cases when the disease commences in the cord, and gradually proceeds up to the brain, the mental symptoms may not be apparent until several months after the inception of the disease. The case mentioned on page 476 was one in point.

The disease began in the cord, and she was regarded as having locomotor ataxia, until the mental symptoms appeared quite suddenly in the form of excitement and delusions of grandeur. In recalling the history of the case afterward, neither the physician nor the husband could remember anything whatever unusual in the character of mental activities for more than a year after the motor symptoms appeared, but did recollect that she gave evidence of mental weakness for some time prior to the appearance of the more marked mental symptoms. It will be necessary to defer a diagnosis in such cases until some evidence may be forthcoming of a mental character.

The maniacal state, which sometimes is one of the sequelæ of prolonged **alcoholism**, may be attended with a disturbance of the circulation of the brain, and also with other conditions which resemble those of general paresis, such as headache, hebetude, enfeeblement of all the intellectual faculties, exalted and expansive delusions, etc. As alcoholism is one of the frequent causes of general paresis, a provisional diagnosis may be suggested and further observation secured. Abstinence from the use of alcohol in cases of simple alcoholism is nearly always soon followed by a marked improvement in these symptoms, which will not be the case if general paresis is present. For other points of differential diagnosis, as between general paresis and alcoholic paresis, reference is made to the chapter on the latter disorder.

General paresis, when attended with protracted periods of silence and stupor, may usually be differentiated from melancholia attonita by the somatic symptoms of the former, and by the slight differences usually present in the stuporous condition, as presented in the two diseases, such as occasional indications of a wider range of thought, the occurrence of short periods during which the general paretic will talk, and also a less measure of mental suffering, as evinced in the lineaments of the countenance when alone.

The dementia of general paresis can be differentiated from primary dementia, and dementia secondary to acute attacks of mania, usually by means of the history of the case, or, in the absence of this, by the presence of the physical signs.

Repeated and severe epileptic seizures are sometimes followed by symptoms which resemble those of general paresis, such as incoördination of ideas, loss of memory, inability to appreciate the environment, failure of attention,

and a decided weakening of all the intellectual faculties. There may also exist a difficulty in the articulation of certain words, or amnesic aphasia, inequality of the pupils, and failure in accomplishing all the finer movements of the hands and fingers. These symptoms, however, when present after epileptic attacks, do not continue many days after the attacks have ceased, and no such mental history as that which pertains to general paresis follows. A difference in the character of the seizures in the two diseases is generally observable; the general parietic rarely experiences a fully developed epileptic attack. It is usually characterized as epileptiform.

Chronic lead poisoning is sometimes attended with symptoms of local paresis, and general weakness of the whole muscular system, embarrassment and hesitation in conversation, and inability to use one or both arms except imperfectly. As characteristic of such cases, however, there will usually be present certain other symptoms which are not found in general paresis, such as the blue line on the gums, nausea and vomiting, and frequently some discoloration of the skin. There will also be an absence of the history of general paresis.

Morbid Anatomy.—It will not be my purpose to even enumerate any considerable number of the many morbid changes which have been found by different authorities after death in general paresis. They are legion in number, and are found in every part of the cerebro-spinal and sympathetic systems, and in this respect correspond to the very great variety of symptoms which have existed during life. Moreover, authorities are not yet agreed as to the nature of some of these changes, which are demonstrated only by the means of a microscope,—that is, whether they are the result of a true inflammatory process, or, on the

other hand, are due to merely degenerative processes originating from some other source of irritation. For our present purpose it will be necessary to mention only some of the more obvious and gross morbid lesions, merely observing in passing that in order to reach an agreement as to the true nature of the initial morbid change, it may be important to attach a definite meaning to the term inflammatory process.

One of the first changes to be observed in the brain of the general paretic who has not died in the early stages of the disease, and which is readily perceived when it becomes exposed, is its apparent **diminution in volume**. The solid substance no longer fills the whole interior of the skull, but appears shrunken, as if the convolutions had been pressed upon each other and the sulci between the convolutions are much wider than in health. This diminution is not only apparent; it is actual, and attended with a compensatory serous effusion. While it is true that the brains of nearly all patients who have died insane, and who have lived in this state during many years, are diminished in weight, yet those of general paretics are especially so, the amount of shrinking in the tissue averaging from three to five ounces. The cerebellum participates in this shrinkage to a less extent than the cerebrum.

Another of the most constant of the morbid conditions which are apparent to the unaided vision, and which has been described by writers since the disease became differentiated, relates to and consists in **adhesions of the pia mater to the summits of the gyri**. When the adherent membrane becomes detached, portions of the gyri remain adherent to the under surface of it, and the remaining portions present an irregularly broken or torn appearance of a dark reddish or brick-dust color. This adhesion, which is

confined to the eminences of the cortex, and does not dip down into the sulci, has been found in from seventy to ninety per cent. of all cases, though in some it exists on only a slight extent of surface.

It has been thought by some to indicate the inflammatory origin of the disease, while others have claimed that the fact of its being limited to the eminences of the gyri, and not following down the membrane into the sulci, was an evidence to the contrary; and have suggested that these adhesions are due primarily to the pressure to which the points invaded have been exposed by the congested condition of the brain prior to the period of pronounced and degenerative symptoms. No special regularity of the area over which the adhesion may extend appears to exist, but according to Mickle it is found in the larger per cent. of cases on the superior frontal gyrus.

It has remained for more recent observers not only to exhibit, by means of the microscope and the improved methods for preparing the tissues for examination, the presence of this morbid process in the more superficial tissues, but to trace its earliest **invasion of the sheaths of the vessels of the pia mater.** The coats of these vessels become paralyzed to some extent and permit the exudation of serum into the spaces between the pia and arachnoid membranes. The small connective rods in this space, which in a normal condition of the membranes remain lax, become tense and distended, and during a later stage of the disease, when the changes which occur in the cortex have resulted in degenerative processes and atrophy, this exudation becomes much more abundant, especially in the sulci which separate the convolutions. It also exerts a pressure upon the summits of the gyri, which accounts for their pinched and narrowed post-mortem appearance.

This diminution of breadth in the summits of the gyri removes the normal support of the vessels of the pia, and they not only exude serum, but, as the disordered process extends, their coats yield, resulting in minute aneurisms or entirely give way, and thus cause minute hemorrhages. These hemorrhages may eventuate in the slight apoplectic seizures which sometimes occur. They seem to be quite identical with the minute serous exudations and hemorrhages which occur at times in the senile brain, and are due to the extension of degenerative rather than inflammatory processes.

But this morbid process, which has its inception in the cells of the vessels of the membrane, does not stop there nor in the elements which lie in juxtaposition to them. It gradually extends to the different cortical layers, **attacks the pyramidal cells**, and causes the ultimate disappearance of many of them, leaving little remaining of their contents except traces of granular material. In place of them, or nearly simultaneously with their disappearance, a cell of another form and function appears. These have been termed the "spider-like cells," and appear to increase in proportion as the degenerative element disappears in consequence of the progress of the disease. According to Dr. W. Bevan Lewis,* they "become the '*phagocytes*' or *scavengers of the tissues* ; live, thrive, and multiply upon the degenerating protoplasmic masses of nerve-cells and their extensions and all effete material lying in their neighborhood, until it is ultimately appropriated to their use."

In some cases the cortical layer can be easily detached from the tissues beneath and even may itself be divided more or less regularly into two or more layers.

* "Text-Book of Mental Diseases," by W. Bevan Lewis, p. 500.

As the morbid process extends its invasion into the normal vascular and cellular structures, there results an increase of the connective tissue as a sequence, which appears to take the place of the former.

The ventricles are frequently found to be much diseased. The lining membrane is thickened and rough in consequence of the irregular growth of the tissue, presenting in some cases a greyish appearance, while in others are found distinct nodules and eminences like small warts.

The **spinal cord** is found to be implicated by no means to the same extent in all cases. We should infer this from the absence, presence, or prominence of certain symptoms during life. In some cases spinal symptoms are almost wholly absent, especially during the early periods of the disease, except it may be a degree of local anæsthesia and diminution of the reflexes, while in some others they are wholly absent. In others they are the first in the order of appearance and furnish the most notable indications. This difference, of course, depends upon the presence or absence of lesions in the cord, and when present, the parts are affected by sclerosis, whether it be the posterior or the lateral columns, or both.

The **membranes of the cord**, especially the **pia mater**, become thickened and opaque, and granulations may appear, and also rough patches on them. The cord also becomes lessened in size in some cases, while in others it becomes softened and surrounded with serum. The degeneration of the posterior columns is generally the most marked, especially in the lower portions.

In those cases in which the patients gradually waste away and a profound dementia occurs, nearly all the nervous tissues represented by the organs of special

sense and the sympathetic ganglia are found to be implicated.*

Treatment.—The alienist in charge of an institution, or in consulting practice, is rarely called to examine and prescribe for a general paretic until after the disease has become so far advanced as to be beyond the effect of remedial medicines, except as they may prove to be palliative.

The few cases which have been reported as recoveries after being admitted to an institution are, at the least, somewhat doubtful, and if accepted as genuine would only prove the general rule that recoveries do not occur. Indeed, when the symptoms, physical and mental, have become so far developed as to render a diagnosis certain, already the pathway on which the patient must travel, and even the length of time during which he will very likely be in passing over it, are pretty accurately discernible. On that highway he sees inscribed in the plainest of letters—“*Facile decensus averni*”; and also “*Nulla vestigia retrorsum.*” If ever in the previous history of the case there had existed a period during which restorative treatment might have been of avail, that period has now passed, and, therefore, whatever he may be able to suggest will resolve itself largely into nursing and care.

The question now arises whether there may not have existed a period prior to the development of these characteristic physical and mental symptoms when, if the case had been understood, treatment might not have sufficed to avert the entrance on that fatal pathway. If the importance of the initial conditions, attended with headache, depression, languor, loss of interest and satisfaction in the

* For a more extended study of the microscopic appearances of the brain and spinal cord in general paresis, I must refer to the treatises of Spitzka, in our own country, and to Lewis, Mickle, and Voisin, abroad.

pursuit of usual avocations, indisposition to read or occupy the mind, especially with what has formerly been of interest, and the development of a kind of motiveless activity,—if, when these indications began to appear they had been rightly interpreted and an efficient system of treatment had become instituted, might not the system have responded, and the subsequent development of the disease been averted? The late Dr. Tyler was very positive in the belief that he had succeeded in arresting the development of the disease. Others have been equally confident of the practicability of doing so, or at least of postponing its evolution for an indefinite period. But whether it be true or not, there certainly exists no inherent improbability in the view that while the morbid process has proceeded only so far as simply to derange the physiological function of the nerve element, or lessen it, and before it has proceeded so far as to destroy it, measures of treatment may prove efficient in arresting further progress, and in restoring these elements again to their normal state of activity.

It may be added that if such results follow treatment instituted for averting the development of other forms of mental or nervous diseases during the initial stages, we may, at least, expect it will do so in general paresis. But evidently the great difficulty will be in appreciating and determining the significance of the somewhat obscure and doubtful symptoms, inasmuch as they may appear in cases which, without treatment, never eventuate in general paresis. At this stage, the history of the individual as to heredity, habits of life, occupation, mental strain, loss of sleep and morals, will prove an important factor in determining the probable prospect and the course to be pursued. Assuming, then, such a case with an unfavorable

history, what measures will be most likely to prove efficient in averting the threatened oncoming of disease?

The first, and a very essential one, will be a thorough change as to those conditions and habits of life which have appeared to be efficient in producing the threatened attack. For this purpose some new form of light employment may be suggested, or travel, diversion of the mind into other channels of thought, regularity of habits as to sleep and exercise, friction applied to the body and extremities with an effort to improve the circulation of the latter, regularity in the use of a simple and nutritious diet without wine or stimulants of any kind, with an abandonment of excesses in every form, if any have existed. If the patient has been accustomed to an intellectual occupation, this should be abandoned for the time being, and every source of anxiety, worry, and care avoided. Absence from home, and travel with a judicious companion, and visits to new scenes and places which may present enough of interest and novelty to divert and occupy the mind, will prove to be an efficient means of improvement. In short, the business man, the lawyer, the politician, the physician, must each seek for such diversion and change as will probably prove most conducive in withdrawing them from former habits of thought and modes of life, at least so far as may relate to care, anxiety, and responsibility.

An absence from family life and city surroundings, and life out-of-doors in some favorable climate, will be advisable, at least during several months. All subjects of conversation or discussion which will be likely to develop unusual interest or difference of opinion should be most studiously avoided, and yet in such a manner as not to attract the attention of the patient. Indeed, the benefit to be secured from the course of proceeding outlined above

will depend largely upon the skill and perseverance of the attendants and friends who may be about and have the care of the patient. Boundless patience, tact, and devotion will be called into requisition, while the physician should seek to restore disordered secretions, relieve congestions, and calm all nervous agitation and anxiety.

If at any period the therapeutical agencies are to be of any value in arresting the progress of the disease, it would appear to be during the initial period, and the earlier the better. From the fact that a few cases have been reported in which the disease has been arrested, or at least its evolution postponed, by the appearance of a carbuncle, or some form of intercurrent disease, it would appear reasonable to expect benefit from the use of the actual cautery, or from the long-continued application of cupping glasses or a seton at the nape of the neck. The iodide of potassium, with such medicines as may be indicated for the appetite and to secure sleep, will be in order.

The bromide of sodium and ammonium may be given to quiet excitability and restlessness and procure sleep. The iodide of potassium should be used freely in case there exists any ground for a supposed syphilitic basis of the disease. It may be anticipated that by the early recognition of the disease, and by instituting at once some such course of management as is outlined above, favorable results may probably be secured in a few cases.

It should, however, be borne in mind that what has been suggested is of importance only in the very earliest portion of the initial period. If the case has progressed so far that the inherent energizing capacity of the cells of the grey matter, upon which the process of mentalization depends, has become largely impaired, there will be no longer hope of restoring it to a condition of normal activity. As the

elements of these cells are the highest and most complex development of the system, so they are the most sensitive in response to unfavorable influences, and are the least amenable to restorative treatment.

After the disorder has become established, and while the patient is still restless and anxious to travel, advice will often be requested by friends as to the desirability of his doing so. In reply it may be stated that generally the more quiet and secluded patients can be kept, the less will become the danger attending excitement and the exhibition of passions. Nor should patients be retained at home with a view of treatment there. They will be likely to still regard themselves as masters in their own houses and decline to place themselves under such restrictions as to conduct, food, and medicine as may be necessary. Another most important reason for placing such patients under restraint arises from the peculiar character of their delusions. This not unfrequently leads to the squandering of property in the most reckless manner and to entering upon large business enterprises which lead to ruin. No class of insane patients are so likely to bring financial trouble upon their families before measures of restraint are instituted as general paretics.

General paretics, when under the influence of delusions of importance, grandeur, and great wealth, if repressed often become domineering and dangerous. This is true while they are under the protection of strangers, and much more frequently the case when the repression is instituted by old friends or the members of their own families. Seclusion, therefore, becomes necessary for short periods or during the continuance of the furious excitement. There is a young man at the time of this writing in the Retreat who has experienced a period of excitement once and sometimes

twice a day during the past three weeks. During the continuance of these attacks, which come on very suddenly, he throws himself upon his attendants, with whom he is on very friendly terms at other times, in the most violent manner and it requires two or three strong men to restrain him until he can be secluded. He seems to have no remembrance of what has occurred at such times after the attacks have passed.

Again, the disease may assume the form of depression, and patients become suicidal and refuse to take food. When such is the case the procedure necessary to administer it, if undertaken at home, becomes most unsatisfactory and distressing to all concerned.

It may be taken as a rule, therefore, that general paretics should be removed to some institution as soon as the disease is determined, where they can be placed under the immediate care of physicians and trained nurses who are entire strangers to them, and by whom they can generally be much more easily influenced than by their own relatives, and where quiet and skillful moral management will be accorded them.

Medication should have relation to modifying or relieving the conditions which have already been described. Cases attended with cerebral hyperæmia, congestive attacks, and headaches may be treated by cold in the form of ice bags applied to the head, cold baths, and at times with the prolonged bath. The latter should be used with great care and always supervised by the physician. Dry cupping and the application of mustard to the nape and feet may be employed with advantage. Of medicines the bromides are the most effective in the form of a combination of two parts of potassium to one each of sodium and ammonium. I have never had experience with the heroic measures which

have been recommended by some authorities, such as bleedings, blisters, and moxas, nor with the practice of creating and continuing an open and suppurating sore upon the neck or back. Patients who have been under my care have not generally been in such a physical state as to warrant such measures of treatment. If they are ever to be adopted it seems to me that the time for their use is at the earliest indications of approaching disease rather than when it has become fully pronounced.

In those cases in which the bowels do not move daily simple purgatives may be given at bed-time, or a movement may be secured by the use of an enema. It is especially important that a costive state of the bowels be avoided, as this is one of the most efficient causes in provoking epileptiform seizures.

I have already referred to the use of the bromides and iodides during the initial period. They may also be used either singly or combined, in moderate doses, for the purpose of relieving sexual excitement, restlessness, insomnia, and congestive attacks. They may sometimes be advantageously combined with digitalis or cannabis indica. When the restlessness becomes very great and the patient is unable to sleep we may give either hyoscine, sulfonal, or the hydrate of chloral or paraldehyde. These medicines should not be continued generally more than a few nights; if necessary other hypnotics may be substituted for them. Cold applied to the head, or a bath, may sometimes prepare the patient for being more easily and fully influenced by these medicines. The use of opium in any of its forms should be avoided.

For the purpose of preventing both epileptiform and apoplectiform seizures it is especially important that the diet be carefully arranged. While the food should be of a

highly nutritious character, it should also be easily digestible and the stomach should never be overloaded; it is better to take a small quantity often. The bromides may be given by enema if necessary; frequent applications of cold to the head and sinapisms to the nape and lower extremities may be of use.

The condition of the bladder should be daily observed and, in case of paralysis, the urine should be drawn with a catheter twice every twenty-four hours.

Bed-sores sometimes become one of the most troublesome complications during the final stage. Efforts should be made to prevent their occurrence by the strictest attention to cleanliness and bathing the most exposed parts with alcohol and lead lotion. The pelvis may be supported upon an air cushion so as to avoid pressure on the most sensitive parts. But one of the most efficient preventive measures will be the use of the water-bed. This is indeed a great boon to the unfortunate and emaciated patient. Bandages of soft cotton have been recommended, though I have had no experience with their use.

After the formation of bed-sores they may be treated by the frequent application of charcoal, or some other form of poultices. The parts should be carefully cleansed after their removal with carbolic solution. The permanganate of potash may also be of service, and the granulations may be stimulated by the application of ointments, etc.

LECTURE XXIX.

ACUTE DELIRIUM (TYPHOMANIA). POST-FEBRILE INSANITY.

Historical References—The Term Typhomania—Definition—Ætiology—Emigration—Exposure to High Temperature—Physical, Mental, and Alcoholic Excesses—Symptoms—Develop Rapidly—Indications of Fatigue—Insomnia—Delirium, Character of—Subsides in about Two Weeks, and is Succeeded by Conditions of Semi-stupor—Countenance—Pupils—Tongue—Intolerance of Food and Drink—Pulse—Circulation—Vesicles—Examples—Morbid Anatomy—Diagnosis—Treatment—Post-febrile Insanity—General Remarks on the Delirium of Fevers—Trousseau—Delirium in Children—Delirium in Typhoid Fever not of Serious Import—Three Forms of Mental Impairment Following Fever—Relative Importance of Each—Ætiology—Unwise Treatment of Fevers in Reference to Feeding—Symptoms—May be of an Excited or Depressed Type—Physical Conditions are those of Anæmia and Perverted Nutrition—Dr. Hurd's Twenty-three Cases—Cases Following Surgical Operations—Hochwart's Thirty-one Cases Following Eye Operations.—The Thirty-five Cases of the Retreat—Prognosis—Generally Favorable—Treatment.

ACUTE DELIRIUM.

Dr. Luther V. Bell first directed attention to and presented a paper upon this form of mental disease at the meeting of the Association of Superintendents of American Asylums, in 1849. He described it as a "New Form of Disease," which resembled some of the advanced stages of mania and fever, and yet so far differed from any described form of disease as to render it probable that it had hitherto been overlooked. In 1850 a paper was read before the

meeting of the same association by Dr. W. H. Ranney upon "Insane Foreigners," in which he alludes to this form of disease, as described by Dr. Bell, as one of frequent occurrence among emigrants, placing it second in point of frequency among those whom he had treated in the asylum on Blackwell's Island. He describes it as a "form of disease apparently intermediate between mania and typhoid fever," but gives it no definite name. In 1851, Dr. C. H. Nichols addressed a letter to the editor of the *Journal of Insanity*, enclosing a short communication from Dr. A. V. Williams to himself, in which he (Dr. Williams) gives some account of a form of insanity "which in our conversations and in my reports I have denominated typhomania, from the striking typhoid character of the physical symptoms it exhibits and the treatment required for its cure."

It thus appears that the term typhomania was not that of Dr. Bell, but Dr. Williams, and that it was used, at least in the earlier history of the disease, from the supposed relation it sustained to typhus or typhoid fever. To Dr. Bell, however, belongs the honor of first directing attention to it, differentiating and describing so fully its symptoms and march of progress that subsequent writers have added but little additional information in relation to them. This, however, could not be said in reference to its morbid anatomy, as the modern methods of examination of brain tissues were then unknown. While he suspected pathological changes in the brain from the character of the symptoms, he failed to satisfy himself that they existed, and Dr. J. B. F. Jackson was equally unable to demonstrate such morbid alterations of tissue. The investigations of later students have supplied this deficiency, and have more fully differentiated it from any form of or connection with typhus or typhoid fever.

Definition.—Acute delirium is an affection accompanied with great mental disorder, a rapid development and course, more often than otherwise fatal, and presenting symptoms which resemble in a marked degree those attending certain very acute cases of typhus, typhoid, and puerperal fevers, meningitis, and some degree of intoxication. It is more common among females than males.

Ætiology.—Dr. Ranney was of the opinion that the disease was caused more often among immigrants from the unfavorable condition attending the passage to this country and the disappointments arising during the earlier periods after arriving, such as the crowded and poorly ventilated rooms occupied on the steamers and failure to secure employment, and consequent worry and anxiety. Heredity, predisposition to brain disorder, excessive heat, great physical, mental, and alcoholic excesses, are all believed to hold an important relation as causes.

Symptoms.—*Psychical.*—The mental symptoms develop much more rapidly than is usually the case in either mania or melancholia. Frequently there exists some such history as that patients have not been quite well, have complained of or have given indications of fatigue, lassitude, and an indisposition to pursue usual avocations; have been restless, nervous, and unusually irritable, but not enough so to lead to the apprehension of friends or themselves. After a short time, perhaps a few days, pain in the head becomes pronounced, the patient is unable to sleep, and the mind passes quite suddenly into a state of acute delirium, which is generally attended by indistinct hallucinations of sight. These are not infrequently of a frightful character, such as burning buildings, or flames in the room, and of blood upon the walls or ceiling, and every effort will be made to escape from the dangers and fright-

ful sight. At other times the hallucinations refer to some person supposed to be an enemy who is in pursuit of them for the purpose of throwing them from a precipice or into the flames, and the patient struggles with desperation to escape, until he falls back bathed in perspiration and quite exhausted. Hallucinations of hearing are much less frequent than those of sight, and definite delusions do not appear to exist unless those of fear. When apparently free from hallucinations and lying upon a bed, the hands are often in constant motion, striking each other or at the attendant, or the patient is counting off some special number on the fingers, or making some childish rhyme, such as one, two, three, don't you see, or two, three, four, open the door, etc., etc., and then the mind recurs at once to the phantom panorama, which seems to be ever floating past the mental vision with the greatest rapidity and evanescent nature. The flow of words addressed to this vision is constant, and constantly changes without sequence, coherence, or order. In fact, it appears to be almost or quite automatic.

One of the most constant symptoms during the earlier stages of the disease is inability to sleep, and large doses of the ordinary soporific medicines have very little effect. In the case of females there exists not infrequently a fear, or phantom delusion, that they have been foully dealt with and are about to be in labor. In the midst of these delirious mutterings, however, it is quite possible to gain the attention for a moment, and the tongue will be protruded and an answer given to a question. The patient may recognize the physician or attendant, calling them by name, and then at once resume the iteration of an endless medley of words or sentences, roll the head upon the pillow, and the agitation and restlessness become

extremely excessive, the patient rolling about the floor or rushing about the room unless restrained.

This general condition of restless delirium continues during ten days or two weeks, and then gradually subsides. The flow of words ceases, sometimes from inability to articulate, and at others apparently from a fading out or a diminution of the vividness of the hallucinations of sight. The mental function appears to be quite in abeyance, and the patient lies unconscious, sleeping several hours a day, and never able to comprehend, and much less to answer, any questions.

2d, Physical.—At this period the physical symptoms have become quite fully pronounced, having steadily developed since the third or fourth day. The face is pinched, anxious, and frequently of a dark, dusky hue, especially under the eyes, and the general expression is one of fear. The pupils may be either contracted or dilated, but are not tolerant of light, while the vessels of the conjunctivæ are often injected. The hands and tongue are tremulous, while the latter is brown, and the teeth covered with dark sordes; the lips become dry and cracked, and the throat full of a thick, tenacious mucus, so that the patient is unable to swallow even fluids without great difficulty. The stomach is intolerant of food and drink, and what is given is soon vomited. The pulse is not much above 100 except in fatal cases and toward the end; during the early stages it may be below normal, while the extremities are cold and require artificial warmth. In the earlier stages the bowels are constipated, but later there may be diarrhœa. The action of the heart is generally feeble, and in nearly all cases the capillary circulation is much impeded in consequence of the paralysis of the vaso-motor nerves, so that the slightest bruises become inflamed or ulcerated.

In a certain proportion of cases, more particularly during the later stages of such as prove fatal, small vesicles appear upon certain portions of the body and limbs; a thin, whitish fluid exudes under the cuticle, which soon breaks and a dark brown scab is formed, which becomes from one-fourth to one-half of an inch in diameter and one-sixteenth or two-sixteenths of an inch in thickness. These are quite irregularly scattered about the anterior surface of the body and limbs, but I have never observed either sudamina or petechiæ.

Generally there occurs a crisis within two weeks. The delirium ceases and a dawning of consciousness returns. The stomach becomes more tolerant of food, the pulse less frequent, and the temperature normal. The interval which has passed is a mental blank, and with surprise patients inquire where they are. The cessation of the delirium is rarely followed by dementia or delusions, and when it is so, according to Dr. Ranney, it is only in cases which have had previous attacks of insanity. The recovery is usually quite rapid.

While the above enumeration of symptoms is fairly accurate in typical cases of acute delirium, yet it should be stated that cases are sometimes seen in which these symptoms appear only in a modified form. They have the essential characteristics but do not pass over into their fully developed character, and may not do so if patients are properly treated from the first, and are otherwise favorably conditioned.

Example 1.—Miss A. R., age thirty-two; admitted September 23, 1887; parents not living; has been a teacher during the past thirteen years. She was a fine scholar—standing the first in her class at graduation—and has risen to a high position as teacher. During the previous sum-

mer vacation she had been in the country, but much engaged in planning the organization of a department of physics, of which she was to have charge the next year. Her sisters report that she did not appear quite as well as usual when she left the country for the city to resume the duties of the school, but little or nothing was thought of this. She entered at once upon duty at the opening of the school, and five days afterward felt "so nervous" that she consulted her physician and did not hear her classes; that same night she became delirious, and remained without sleep during seventy-two hours, when she was brought to the Retreat, with the report that notwithstanding the administration of three grains of morphine, with doses of chloral and bromide, during the previous night she had not slept and it required four persons to control her.

At the time of admission the pulse was 100 per minute, quite weak, but there was no rise in the temperature. The tongue was covered with a whitish coat and dry. She was constantly talking, repeating meaningless, rambling sentences or words, and addressing persons whom she seemed to see passing. The movements of hands and feet were constant, and she rolled from side to side, and would have gone to the floor if permitted. She was given hypodermically one-hundredth of a grain of hyoscine, but no chloral or morphine. The next night she slept one and one-half hours, and about the same on the third and fourth nights. There was no sleep on the fifth night, but from this time forward there were two or more hours of sleep every night. After one or two days the tongue became brown, the lips dry and cracked, and the teeth covered with dark sordes, the bowels were constipated, the throat filled with thick, tenacious mucus, and she was unable to swallow. On the fifth night

the pulse rose to 140, and the temperature to $100\frac{1}{2}^{\circ}$. She was no longer able to articulate words, but still exhibited great motor activity. On the sixth and seventh and eighth days there was less of morbid restlessness, and by removing the mucus from the throat she was able to swallow a little tea. From the first there had been intolerance of all kinds of food, and even a small quantity of any liquid was soon vomited. From the tenth day after admission the stomach became tolerant of tea and milk and there were two or three movements of the bowels on some days. The enemata, which had been administered from the first, were sometimes expelled. Signs of returning consciousness began to appear, and she seemed to comprehend in some measure what was said to her. The pulse dropped to 82, and became stronger, and convalescence became established. At no time did there appear any petechial spots or sudamina, nor did the temperature rise above $100\frac{1}{2}$ degrees, nor did there appear any of the pemphigus-like eruptions on the limbs, such as appeared in Case 2.

I cannot but regard the effect of the hyoscine in this case as most favorable. Insomnia is one of the most marked features of this form of disease, and in this case other drugs had been faithfully tried without success. This appeared to control the marked motor activity in some measure, and by this means permitted some sleep during every twenty-four hours after the first night, with one exception. The strength was conserved by the use of frequent and large nutrient enemata, composed of beef tea, milk, and eggs. The marked value of this was shown by the fact that as late as the fourteenth day after admission, and while she was using milk and tea without disturbance of the stomach, an omission of the enemata for sixteen hours was attended

with increase in frequency of the pulse and greater weakness of it.

On the other hand, in fatal cases, which are far more numerous, the stupor becomes more profound, the paralysis of the vaso-motor nerves more complete, the blood settles under the nails of the fingers and toes, the capillary vessels of the dorsal surfaces become congested, rendering them of a dark blue color, the action of the heart more feeble, respiration more frequent, until the scene finally ends in a condition of profound insensibility and coma.

Example 2.—J. A. T., a female; age, twenty; single; admitted in May, 1887; had worked during some months in an envelope factory. Her mother and father both living and invalids; both said to be affected with “nervous” disorders, and the mother to have been confined to her bed for a long time. Distant relations on both sides of the family have been insane. Patient had had the care of an invalid mother for two years prior to entering the factory, and had become somewhat invalided, and was at one time hysterical and under the care of a physician. Some eight days prior to admission, and while at work in the factory, she became suddenly excited, and said that some one had given her a “love powder,” and continued to talk wildly and rush about the room where she was, until she was removed to her room in a carriage. After her arrival at the house she complained of pain in her stomach and had a slight convulsion; her excitement increased, and she screamed and shouted, at times shed tears, and was continually walking about the room into which she was locked, and tried to throw herself from the window. This general state of excitement continued without abatement during some days, and she obtained but very little sleep from the medicines

which were administered for the purpose of securing it, when she was removed to the Retreat.

On admission she was talkative and restless, but not greatly excited; would not stand on her feet, but persisted in remaining on the floor; had no appetite; tongue was covered with a creamy, white coat, and bowels costive. She did not apparently sleep, and her mind was much confused, so that she could not respond to questions, even if she made an effort to do so, which was seldom the case. After a day or two she would remain on the bed when placed there, and sometimes turn on her face, remaining in that position until the attendant placed her on her side or back. A whitish mucous secretion formed in the throat and ran out of her mouth, which she did not seem to notice; the pulse became weaker, though not rapid; the extremities were often cold, and she became more stupid, and took food in fluid form only when it was placed in her mouth. At the time of admission there was observed on the anterior portion of the chest, abdomen, and legs an eruption of pemphigus-like vesicles. As the case progressed these increased in number, and were located very irregularly upon the whole anterior surface of the body and legs. The feet and hands also became of a dark purple color, and the blood settled under the nails, while on the anterior surface of the knee, below the patellæ, the integument became swollen, inflamed, and very sensitive, though there was a degree of anæsthesia in other portions of the body. Food was given in fluid form by the stomach and rectum in an abundant quantity, but she continued to become weaker and more stupid, and, finally, became comatose, in which state she remained several hours, and died on the thirteenth day after admission.

Morbid Anatomy.—It is thought to be more difficult to

determine, in cases of acute delirium, whether the appearance of morbid changes is due to the active progress of the disease or to the conditions which result from them in the process of death and shortly afterward. Hence many of the early writers upon this form of disease report little morbid anatomical change, and, basing apparently their opinion upon the character of the symptoms, regarded the disease as one of cerebral anæmia or inanition. All modern authors are agreed, however, upon certain changes and appearances of the brain and its envelopes, among which may be mentioned the following: 1st. A large congestion of the meningeal membrane and a distention of the veins and sinuses, with dark venous blood. 2d. The capillaries of the surface of the brain and also of the ventricles are injected.

3d. In some cases there is found to exist an adhesion of the pia mater to eminences of the anterior convolutions quite similar in character to what is found in general paresis.

4th. The grey substance is more or less injected, and according to Schüle presents a peculiar pinkish-red discoloration. According to Briand, this appearance upon the surface is secondary in the order of occurrence, that is, it originates in the lower layers of the grey substance, and gradually rises as the disease progresses toward the superficial surface. In only a limited number of cases, and such as die during a protracted second stage, are there found indications of congestion and engorgement in the white substance. The basal ganglia are affected to the same extent as the cortex, and are changed in color. This is thought by Pauly to be due to a transudation of the coloring matter of the blood through the coats of the capillary vessels. Briand has also found, after an examination of

many cases, the existence of a peculiar red color of the internal coat of the aorta near the level of its large curvature, a diminution of the red globules of the blood, and collections of leucocytes. In many cases there is found an œdematous condition of the convolutions and an increase of the cerebro-spinal fluid. (Ball.) Such marked lesions of the substance and envelopes of the brain as above mentioned indicate very clearly that the acute delirium is connected with them in the relation of an effect.

Diagnosis.—Cases of acute delirium are to be distinguished from those of acute mania—

1st. In the method of advent. The prodromata are never well marked, and exist only during a few days, while those of mania are recognized for a much longer time, unless caused by injury, sunstroke, etc.

2d. Appetite and digestion are normal or increased in mania, while both are absent in acute delirium.

3d. Mania rarely runs its course in less than two months, does not usually develop by a sudden outbreak, and ends with a considerable period of convalescence, melancholia, or dementia.

4th. Mania is not usually fatal, and the strength remains vigorous throughout the course of the disease; acute delirium is very fatal, and the strength fails almost from the first. The mental condition is one of delirium, and not attended with imperative concepts, incoherence or even disorder of thought, but, on the contrary, all impressions seem to be exceedingly fleeting and indistinct, unless it may be those of danger. When mania is the sequel of pneumonia or the puerperal state, these elements of history will aid in the diagnosis. Again, some cases of typhoid fever, especially those in which the delirium is a very early symptom, resemble those of acute delirium, and when

cases of the latter disease are not seen until the physical symptoms are fully developed, some care in making a diagnosis may be necessary. It will, however, be noted that the external indications of typhoid upon the chest and abdomen are absent, that the temperature does not have the characteristics of that of typhoid, and that there is an absence of tympanites and tenderness of the intestinal canal.

Finally, acute delirium may be distinguished from meningitis or cerebritis by the absence of the indications of a state of acute inflammation. The pulse is not strong from the first, and rarely becomes so. The patient does not complain of pain, or of sensitiveness to light, or of thirst, nor is there an increase of the temperature of the external surface of the head. The symptoms indicate rather a passive congestion of the capillary vessels of the brain.

Treatment.—The indications for treatment are :—

First, to procure sleep; and, second, to sustain the patient. The remedies which are of value in producing sleep in ordinary cases of insomnia are of little service during the early stages of acute delirium.

If opium is used at all it should be subcutaneously, but in my experience both it and chloral have proved utterly futile. One of the cases above related took three grains of morphine during the night before admission, and apparently without any effect—there certainly was no sleep.

From my experience with the hydrobromate of hyosine I am inclined to recommend this as more likely to allay, for short periods, the great motor activity which is so constant an attendant, than any other remedy; and if even a few minutes of sleep can be procured it is of the first importance. Since the above sentence was written I have

had occasion to use hyoscine in two cases of acute delirium during the early period, and in both with most favorable results. The great motor restlessness was much relieved and sleep induced. Seclusion in a quiet room, with skillful and faithful attendants, is a prerequisite to any rational treatment.

When patients can swallow and food can be retained upon the stomach, it should be administered often and in the form of soups, bouillon, and warm milk. During the early stages, and when the stomach rejects food or the patient is unable to swallow, it is necessary to sustain by nutrient enemata, which should be given as often as once in four hours. Wine may be given with the enemata when indicated. Warm and prolonged baths and sinapisms are indicated, but the difficulties attending their use are so great as to almost preclude it.

The prognosis in acute delirium is extremely grave in all cases. It certainly is one of the most formidable of diseases we are ever called upon to treat. Recoveries are, however, not unheard of, and I am inclined to think, from reports, are more common in this country than in Europe.

POST-FEBRILE INSANITY.

Trousseau* remarks that **delirium** is a normal symptom, as it were, of typhoid fever and consequently is not to be regarded as of serious importance. On the other hand, when it appears in some other forms of exanthematous disease, for instance, in measles, it is of grave import. This fact would seem to point toward one of two conclusions—either that the poison that affects the brain in these two

* "Lectures on Clinical Medicine," Vol. I, page 518.

forms of disease is essentially different in character, or else that the nervous system is less susceptible to its influence in one case than in the other.

• It should be noted that the constitutional susceptibility of persons to delirium varies very greatly; while in some any considerable rise of temperature and increase of the circulation is attended with a delirious state of the mind, in other cases it develops much more slowly and only after the system has become overwhelmed by the presence of disease. This is especially noticeable in the case of some children when affected with fevers of an ephemeral nature, and also disorders attended with more serious symptoms.

The case of a little girl of eleven years of age now occurs to me. When taken ill with diphtheria, within six hours after the active symptoms of the disease appeared, the pulse rose to 130 per minute and the temperature to 103° . She suddenly became delirious and continued so for thirty-six hours. After this the delirium subsided until a short time before death, which occurred on the fifth day. The same child had an attack of scarlet fever at five years of age. One of the first indications of the disease was a slight convulsion and afterward an active delirium, which continued about twelve hours. The susceptibility to delirium doubtless continues during the early period of adult life in many persons.

We know little or nothing of the remote cause of delirium, and, therefore, are unable to say why one person is so much more susceptible to its advent than another. But the same is true in reference to other and systematized forms of insanity. We know definitely very little of the nature of their ætiology except what may relate to the proximal elements of it. It is, however, reasonable to conclude in all cases that the derangement depends very

largely upon an unstable constitution of the brain itself. Such a condition existing, and its activity would become greatly increased and disordered by otherwise inoperative causes. Delirium may occur as an independent symptom during the existence of other forms of mental disorder. I now have a case of *folie circulaire* of several years' duration. This patient nearly a year ago had pneumonia. During its progress he had delirium, which continued for several days and disappeared as convalescence advanced.

The **delirium of typhoid fever**, which is not usually a serious symptom, is the most common of all the nervous symptoms which are sometimes present in that form of disease, and it is especially important to differentiate it from another form of mental disturbance which is sometimes present at a later stage or during convalescence, and which may indicate an affection of the membranes of the brain or in some cases of the grey matter itself. This condition is attended with marked impairment of the intellectual faculties, mental confusion, a semi-stupor at times, and a degree of hebetude at all times, a loss of memory, transitory hallucinations, and generally with symptoms of a depressive character. This nervous and mental complication, which sometimes attends convalescence from typhoid fever, has long been recognized as not an unfrequent one. It may be comparatively transient and continue only for a few weeks, or it may remain for some months. The period of its continuance will depend largely upon the profoundness of the effect which has been produced upon the nervous system by the experience of a disorder of a zymotic character, and the rapidity with which the poisonous elements may be eliminated from the system. In some cases the effects remain indefinitely and the system never fully regains its former state of healthy action. The mind is less force-

ful and initiative ; all ambition for undertaking new enterprises is absent, and there is present a state of comparative feebleness, inactivity, and good nature.

There is still another class of typhoid patients in which the intellect becomes deranged from a **deterioration and impoverishment of the blood**. This may arise from an insufficient supply of food during the most active period of the disease, or from a large loss of blood from hemorrhages from the bowels, or, finally, from a constitutional weakness of the assimilative organs, which becomes increased under the depressive influence of a grave disorder and renders them incapable of fully supporting the system. In either case the nerve elements of the brain become profoundly affected and pass into a state of abnormal activity ; they reënergize only in a partial degree, are unstable and irregular in action, and remain in a state of weakness during a considerable period. The gravity of this mental disturbance will depend largely upon the previous habits of the individual and his former experience of diseases.

The importance of these three forms of mental disorder will be in the inverse order of their mention. The first is of comparatively little significance as to after effects upon the mind, and its disappearance is one of the indications of approaching convalescence. The second is more important, may be attended with long-continued effects, and presents special indications for care and treatment. The third constitutes a form of mental disorder by itself.

Ætiology.—Several writers during the last half century have described more or less fully the ætiology and symptoms of post-febrile insanity ; the first of whom, so far as I know, was Chomel in 1834. It was formerly supposed that its most important ætiological factor was an imperfect

elimination of effete material from the system during the active course of the disease. Treatment of a very heroic character in nearly all forms of acute disease was then regarded as very essential, and any neglect of it as likely to be followed by unfavorable results in some form or other. However important heroic treatment might be regarded then, it is certain that a great change in this respect has taken place within the last 30 or 40 years. It is also true that there has occurred a change more or less great in the character of exanthematous disease; malarial and typhoid fevers have largely taken the place of typhus and pernicious fevers. It is also probable that the human system in the present conditions of living would be less able to bear the drastic measures of medication then in vogue than was the case formerly. Whether these changes in the intensity of disease and in methods of treatment have any relation other than that of sequence it is not necessary for us to inquire at present. It is only important to bear in mind the fact that insanity as a sequel of these diseases appears to be of less frequent occurrence at the present time than it was formerly. And, if the most important ætiological factor is an **impoverished condition of the nerve cells and medullated fibres of the brain** arising from an anæmic condition of the system, we may fairly conclude that its less frequent occurrence is due in part or wholly to the two changes above alluded to. First, a less sthenic form of the disease itself, attended with a less profound shock to the system and less depression of its nervous energy. Second, an abandonment of the heroic mode of treatment and the adoption of one attended with a larger degree of conservation of systemic energy.

The less frequent occurrence of post-febrile insanity during the recent past in Connecticut is shown by an ex-

amination of the records of the Retreat and the Hospital at Middletown; and I have reason to believe that the records of other institutions in New England exhibit a similar diminution in such cases. In this connection, and as indicating another ætiological factor of post-febrile insanity, I may refer to the change which has occurred in prescribing the diet of patients during the continuance of fever.

The old maxim used to be, "Feed a cold and starve a fever." Now all this is changed. I believe that Dr. Graves, of Dublin, was the first to call the attention of the profession to the importance of feeding fever patients. He was greatly in earnest on this subject, and in his lectures used to say to his pupils, "If you are at a loss for an epitaph to inscribe on my tomb, you may use these words, 'He fed fevers.' " *

It is not easy to conceive of a procedure in the conduct of fevers which would be more likely to induce a condition of anæmia and perverted nutrition than that of **starvation**. And this was quite literally the course formerly pursued. The fact that the patient did not call for food, or while in a state of stupor and delirium refused to use it when offered, was thought to be an indication of nature that the system did not require it; consequently it was left to feed upon itself. How thoroughly erroneous and positively injurious such a course was I need not take time to indicate. It appears reasonable to conclude that the course now pursued, of sustaining the system with a variety of easily digested food throughout the whole course of the fever may be a very important reason why we now have so few cases of subsequent mental derangement.

Symptoms.—The symptoms of post-febrile insanity

* "Clinical Lectures on the Practice of Medicine," vol. I, p. 119. (This statement not found in American edition of Graves' Lectures.)

cover a considerably wide range. They may be of an excited or depressed type, as the inhibitory centres may or may not become involved, with attendant hallucinations, delusions, imperative concepts, and morbid impulses. In mild cases the disorder consists mainly of an enfeeblement of the mental and physical powers. The circulation becomes slow, the extremities cold, the muscular system weak, and the secretions comparatively inactive. The mind becomes depressed and apathetic, and, in some cases, a state of semi-stupor supervenes which may remain during several weeks.

In other cases the brain becomes still further reduced, and patients are more or less excitable or excited, talkative, and restless. A state of mental confusion may arise in which imperative concepts usurp the sphere of consciousness and largely dominate it. And not unfrequently they lead on to imperative acts and morbid impulses. There is very little sequence of thought; the mind passes from one subject to another with no apparent reason, and patients ramble on, using words which have little, if any, relation to the supposed subject of conversation. Hallucinations of all the organs of sense, and also illusions, are frequently present. Patients often hear voices and mistake strangers for those whom they have formerly known. The hallucinations sometimes become so numerous and vivid and are so constantly present as to create a state of mental confusion or panoramic phantasm. Delusions may be either of a transient or a permanent and more systematized character. They may develop slowly from the presence of hallucinations and delirious concepts, or rapidly from some trivial exciting cause acting upon a brain in a state of debility. Delusions of suspicion and fear are more

often present, and sometimes lead to assaults upon supposed enemies.

If the assumption that the underlying physical condition of the symptoms is one of **anæmia and perverted nutrition** be correct, we are prepared to anticipate not only a considerably wide range of symptoms, but also the fact that this form of insanity is likely to develop from the experience not alone of exanthematous and exhaustive fevers and pneumonias, but from profound injuries and shocks to the nervous system and from the protracted effects of surgical operations; in short, from any experience which induces the physical state referred to. An examination of a considerable number of cases shows that this is true. Dr. Henry M. Hurd, in an interesting article * on this form of insanity, has given a summary of 23 cases the histories of which he has investigated. Of these 23 cases eleven were the sequence of typhoid fever; in seven of the eleven, delusions of fear and apprehension were present; in one, delusions of grandeur; and, in all the others, marked mental enfeeblement. Two were the sequence of pneumonia. Nine of the 23 cases were surgical. In these the mental complication appeared about the ninth day. In five of these there was depression and in four excitement. Four recovered, five died, and one did not recover. Eight of the eleven cases following typhoid fever recovered, two died, and one did not recover. Both cases of pneumonia recovered after a protracted illness.

In cases occurring after **surgical operations** the question of the influence which anæsthetics may have had occurs. In the majority of surgical cases the insanity

* Read before the Medical and Chirurgical Faculty of Maryland, April 28, 1892.

seems to develop before a condition of anæmia and perverted nutrition has become established, and it becomes necessary to look for other causes. These may be found in the depressing influence upon the nervous system of very sensitive persons which the anticipation of an operation produces; the shock, which is more or less profound according to the nature of the operation, and the subsequent uncertainty of a successful issue. The importance of this last factor must be considerable in some cases. Indeed, it has often been observed that cases not followed by the development of insanity do well or otherwise largely as the element of expectancy and hope predominates in the mind of the subject. In my own experience I have never known of a case of systematized insanity which apparently resulted from the use of anæsthetics, and after surgical operations of a severe nature insanity as a sequence is certainly rare. Therefore other ætiological factors must exist in the majority of such cases.

Von Frank Hochwart* reports thirty-one cases of insanity which have followed **eye-operations**. These were divided into four groups: First, hallucinatory confusional insanity; second, simple confusional insanity in old people; third, psychoses in chronic alcoholism; fourth, cases of confusional insanity in very marasmic individuals with other intercurrent somatic diseases with fatal termination. He concludes that insanity is more frequent **after eye-operations** than after other surgical operations.

It will be observed that in three of the above four classes of patients there existed at least one ætiological factor beside the operation, viz.: first, old age; second, alcohol-

* For a review of Von Frank Hochwart's paper, see *American Journal of Psychology*, vol. iv, No. 2, pp. 331, 332.

ism; and third, marasmus. Any one of these would be likely to prove a more important element in the development of the subsequent insanity than the operation itself.

More than fifty per cent. of the cases which I find upon the records of the Retreat were chronic at the time of admission. The histories of many of these is imperfect. I have, therefore, selected only cases which were reported to be acute at the time of admission, *i. e.*, they were brought to the Retreat so soon after the subsidence of the fever that there could be no doubt as to their ætiology. These cases number 35—18 males and 16 females. Heredity was stated to exist in 16 of these; no heredity in ten, and no statement was made on this point in the other eight. In 17 the form of fever is not stated, the record being simply **fever**. In seven it was typhoid, in four typhus, in two pneumonia, in one scarlet, in one gastric, in one malarial, and in one ague and fever. In 15 the form of the subsequent mental disorder was melancholia, in 17 mania, and in two dementia. Eight were excited and at times violent; five were suicidal. Eighteen had delusions mostly of fear and suspicion, three had delusions of poisoning, and one delusions of grandeur. Hallucinations, suspicions, semi-stupor, incoherence, mental confusion, and enfeeblement were present at times in a large per cent. of the cases. Twenty-one, *i. e.*, 61 per cent. of all the cases, recovered, eight did not recover, and five died.

Prognosis.—The prognosis in nearly all forms of recoverable insanity depends very much upon the length of time it has existed, and this is true of post-febrile insanity. There can be no doubt that the large majority of cases recover at their own homes and do not find their way to asylums; and the large proportion of those patients who do go to institutions have been under home treatment dur-

ing months, and, in many cases, more than a year. When such treatment has proved unavailing and the prospect of a recovery has greatly diminished they seek the care of an asylum. More than fifty per cent. of the thirty-five cases from the records of the Retreat were not placed under its care until several months after the subsidence of the fever, and yet there was a recovery in sixty-one per cent. Eight of the eleven fever cases in Dr. Hurd's group recovered. It may properly be inferred from our reference to the ætiology of the disease that the prognosis will also depend considerably upon treatment received as to food during the active stages of the fever, and upon the period of its continuance. On the whole, it may be regarded as one of the most curable forms of insanity.

Treatment.—The treatment of post-febrile insanity should embrace all measures which promise a restoration of the general physical health. These will include a sufficiency of easily digested food given five or six times daily, bitter tonics, beer, and in some cases strychnine and iron. As soon as possible the patient should be removed to the open air and kept out-of-doors several hours every day. Diversion in the way of games, reading, walking, or riding, and some kind of light employment as soon as the patient is able to attend to it, will all be of service.

As the condition of the system is one of debility it is not necessary, nor in many cases desirable, that patients should be removed from their own homes and the care of friends. The change to an institution and to the care of strangers is likely to produce a more unfavorable effect than such a proceeding usually does in some other conditions of the system. The same hesitation should be exercised in taking this step as in cases of senile insanity. If the conditions are favorable, treatment at home should first be tried. An early

removal to an institution may, however, become necessary, as in senile insanity, for the interests of the other members of the family. Cases which are attended with very acute symptoms or dangerous tendencies should at once be removed to an institution. It has been suggested that the care of patients as to food during the active period of fever may exercise a large influence as an ætiological factor. The importance, therefore, of securing the frequent administration of food throughout its active course as a prophylactic measure will be appreciated. It should be borne in mind that the system has generally to pass through the experience of a long protracted disease, and hence the importance of every measure which will tend to conserve the nervous energy. For this purpose food should be given freely from the commencement of the fever. The character of the food should be adapted to the condition of the stomach. Many cases of typhoid fever which are attended with good nursing, frequent baths, and a sufficiency of easily digested food pass to a successful issue, with little medicine and without unfavorable sequences.

APPENDIX.

Extracts from the Laws of the Different States and Territories of the United States which relate to the General Care of the Insane.

The following pages relate more particularly to the duties and responsibilities of physicians and officers of the law in reference to committing insane persons to institutions for care and treatment; their general management while under treatment, and their discharge from institutions.

As the Laws of the States differ very considerably in reference to the form of proceeding necessary to be followed in these several respects, it is thought desirable that from the great body of Statutes relating to the management of the Insane such extracts as relate to the duties of physicians should be compiled and made easy for reference. It is believed that the following arrangement will prove to be of service, especially to general practitioners.

ACTS OF ALABAMA, 1886-87.

Regulating the Admission and Discharge of Patients in the Alabama Insane Hospital.

SECTION I.—Be it enacted by the General Assembly of Alabama that the word “insane” where it occurs in the act incorporating the Alabama Insane Hospital, shall be construed to mean any person who, by reason of an unsound mind, resulting from disease of brain, is incapable of managing and caring for his own estate, without danger to himself or others if permitted to go at large or is in such condition of mind or body as to be a fit subject for care and treatment in the hospital for the insane; provided that no person idiot or imbecile from birth, or whose mental development was arrested by disease or physical injury prior to the age of puberty, or any person who is afflicted with simple epilepsy, shall be regarded as insane, unless the manifestation of abnormal disability, violence, homicidal or suicidal impulses are such as to render his confinement in the hospital a proper protection to prevent him from injuring himself or others.

SEC. 2.—Be it further enacted that authority to discharge patients from the Hospital is vested in the Trustees, and may be delegated by them to the superintendent, under such regulations as they may see proper to adopt.

* * * * *

SEC. 3.—Be it further enacted that the Superintendent of the Hospital has authority to furlough for a period not exceeding six months, such of the harmless and convalescent patients as in his opinion may be benefited by the change.

* * * * * Proviso to effect that expenses of furlough be borne by the parties.

SEC. 4.—Be it further enacted that persons confined as insane, shall be entitled to the benefit of a writ of habeas corpus. * * * * *

REVISED CODE OF ALABAMA, 1886-7.

SECTION 1237.—*Order of Admission.*

In order of admission, the indigent insane must have precedence of the rich, and recent cases of both classes must have precedence over those of long standing. The paying patients from other States may be received into the Hospital should vacancies occur unclaimed by natives or residents of Alabama.

SEC. 1241.—*Investigation of Insanity and Admission to Hospital of Indigent Persons.*

When a person in indigent circumstances becomes insane, application can be made by his friends, or any other person in his behalf, to the Judge of the Probate Court in the county where he resides; and such Judge must without delay make application to the Superintendent of the Hospital for his admission.

* * * * *

When informed that the applicant can be received, the Judge must call one respectable physician and other trustworthy witnesses, and fully investigate the facts in the case, and either with or without the verdict of a jury, at his discretion, must decide the case as to insanity and indigence; and if the Judge believe that satisfactory evidence has been adduced showing the patient to be insane, and his estate insufficient to support him and his family (or himself alone if he has no family) under the visitation of insanity, he must, upon the Judge's certificate, be consigned within thirty days to the hospital, at the expense of the county, and be supported there at the expense of the State; and the superintendent shall be required to keep the vacancy for a period of thirty days after the date of notice that patient can be received. The Judge in all such cases shall have the requisite power to compel the attendance of witnesses and jurors, and must file the certificate of the physician and other papers relating to the case, with a report of the proceedings and decision.

SEC. 1249. * * * * *

No patient must be received or discharged without suitable clothing, and if it cannot otherwise be obtained the steward must furnish it and charge the

same to the county from which he was sent. The patient must also be furnished by the steward, if it is not otherwise to be had, with money sufficient, not to exceed \$20.00, to pay his expenses until he reaches home; and the cost of clothing and money advanced must have precedence over other claims, and be repaid promptly by the Commissioners of the county from which the patient comes, into the county treasury.

REVISED STATUTES OF ARIZONA, 1887.

Insane Persons.

PARAGRAPH 2156, SECTION 1.—The Probate Judge of any county in this Territory, upon the application under oath setting forth that a person by reason of insanity is dangerous, being at large, shall cause such a person to be brought before him for examination, and shall cause to be summoned, to appear at such examination, two or more witnesses acquainted with the accused at the time of alleged insanity; who shall be examined on oath as to the conversation, manners, and general conduct of the accused upon which such charge of insanity is based; and shall also cause to appear before him one or more graduates of medicine, and known to be reputable practitioners thereof, who shall be present at such examination, and personally examine accused, and shall set forth in written statement to be made by one of them: first, his or their judgment as to the insanity of the person charged; second, whether it be dangerous to the accused, to the person, or property; third, whether such insanity is in his or their opinion likely to prove permanent or only temporary; and upon such a hearing and statement as to the aforesaid, if the proofs shall satisfy the Judge before whom such hearing is had, that such party is insane, and that by reason of his or her insanity he or she be in danger, if at liberty, of injuring himself or herself, or the person or property of others, he shall, by an order entered by record in a book kept for that purpose, direct the confinement of such person in the Territorial Insane Asylum, who shall be confined therein and not discharged until sufficiently restored to reason.

PARAGRAPH 2157, SEC. 2.—The principal supervisors of each county shall cause such person to be conveyed to the Territorial Insane Asylum, and shall present for the safe confinement and care of such person, suitable place in such asylum, and shall draw their warrants in payment of proper costs and charges therefor upon the county treasury; and the county treasury shall pay such warrants out of the general fund as other warrants are paid from such fund; *provided*, that such insane person shall have no money or property from which said cost and charges may be paid, according to the provision of this act.

ACTS OF ARKANSAS, 1889.

SECTION I.—*Female Attendant to be Provided.*

That all females who have been adjudged insane by proper authorities, shall be accompanied from the county seat so adjudged, to the insane asylum, by at least one female as an attendant or protector, and the said female attendant shall receive the same compensation as is now paid to male attendants for the same service.

ACT II.

SECTION I.—*Privileges of Inmates in Correspondence.*

That from and after the passage of this act each and every inmate of each and every insane asylum, either public or private, in the State of Arkansas, shall be allowed to choose one individual from the outside world to whom he or she may write when and whatever he or she desires, and over these letters to this individual there shall be no censorship exercised or allowed by any of the asylum officials or employees; but their post-office rights, so far as this one individual is concerned, shall be as free and unrestrained as are those of any other resident or citizen of the United States, and shall be under the protection of the same postal laws; and each and every inmate shall have the right to make a choice of the individual party every three months if he or she so desire to do; and it is here made the duty of the superintendent to furnish each and every inmate of every insane asylum, either public or private, in the State of Arkansas, with suitable material for writing, enclosing, sealing, stamping, and mailing letters, sufficient at least for writing of one letter per week, provided they request the same, unless they are otherwise furnished by the writers thereof, accompanied by an attendant when necessary, into a post-office provided by Congress at the insane asylum, and kept in some place of easy access to all patients. The attendant is required in all cases to see that this letter is directed to the patient's correspondent, and if it is not so directed it must be held subject to the superintendent's disposal, and the contents of these boxes must be collected once every week by an authorized person from the post-office department, and by him placed in the hands of the United States mail for delivery.

SEC. 2.—*Duties of Superintendent.*

That it is hereby made the duty of the superintendent to keep registered and posted, in some public place at the insane asylum, a true copy of the names of every individual chosen, and by whom chosen, and it is hereby made the duty of the superintendent to inform each individual of the name of the party choosing him or her, and he is to request him or her to write his or her own name on the outside of the envelope of every letter he or she writes to this individual; and all these letters bearing the individual writer's name on the

outside, he is required to deliver, without opening or reading the same, or allowing it to be opened or read, unless there is reason for believing the letter contains some foreign substance which might be used for medication, in which case the letter shall be required to be opened in the presence of a competent witness, and this substance shall be delivered as directed.

SEC. 3.—*Violation of the Act by Persons Connected with Asylums a Misdemeanor.*

That any person refusing or neglecting to comply with, or wilfully and knowingly violating any of these provisions of this act, shall be guilty of a misdemeanor, and upon conviction thereof shall be punished as the civic code of the State of Arkansas describes for misdemeanor, and by ineligibility to any office in the asylum afterward.

SEC. 4.—*Copy of this Act to be Posted in Wards of the Asylum.*

That a printed copy of this act shall be kept posted in every ward in every asylum, both public and private, in the State of Arkansas.

DIGEST OF THE STATUTES OF ARKANSAS, 1884.

SECTION 3769.—When any sheriff, coroner, or constable shall discover any person to be of unsound mind, or incapable of managing his own affairs, the court shall appoint a guardian of the person and of the estate of such insane person.

SEC. 3815.—*Fact of insanity inquired into; how.*

If any person shall allege in writing, ratified by oath, that any person who has been of unsound mind, or addicted to habitual drunkenness, has been restored to his right mind or to correct, sober habits, the court in which the proceedings were had shall cause the facts to be inquired into in such manner as it may direct.

SEC. 3811.—*Lunatic previously mad, may be confined.*

If any person who has been previously mad, or so far disordered in his mind as to endanger his own person, or the person or property of others, shall again become insane, it shall be the duty of his guardian or person under whose care he may be, and who is bound to provide for his support, to confine him in some suitable place until the next term of the Probate Court for his county, which shall make such order for the restraint, support, and safe-keeping of such person as the circumstances of the case shall require.

SEC. 3812.—*Judge or Justice may order confinement.*

If any such person of unsound mind, as in the last section specified, shall not be confined by those having charge of him, or if there be no person having such charge, any judge of a court of record, or any two justices may employ any person to confine him in some suitable place until the court shall make further order thereon, as in the preceding section specified.

SEC. 3814.—*Insane persons found at large.*

Insane persons found at large, and not in the care of some discreet person, shall be arrested by any peace officer and taken before a magistrate of the county, city, or town in which the arrest is made.

CODES AND STATUTES OF CALIFORNIA, 1886.

*Examination and Committal of Insane Persons.*SECTION 2210.—*Examined before whom.*

Whenever it appears by affidavit to the satisfaction of the magistrate of the county, that any person within the county is so far disordered in his mind as to endanger health, person, or property, he must issue and deliver to some officer, for service, a warrant, directing that such person be arrested and taken before any Judge of court of record within the county, for examination.

SEC. 2211.—*Two Witnesses.*

When the person is taken before the Judge, he must issue subpoenas to two or more witnesses best acquainted with such insane person, to appear and testify before him at such examination.

SEC. 2212.—*Two Physicians.*

The Judge will also issue subpoenas for at least two graduates of medicine to appear and attend such examination.

SEC. 2214.—*Duty of Physician.*

The physician must hear such testimony, and must make a personal examination of the alleged insane person.

SEC. 2215.—*Certificate of Physicians.*

The physicians, after hearing the testimony and making examination, must, if they believe such person to be dangerously insane, make a certificate showing as near as possible—

First: That such person is so far disordered in his mind as to endanger health, person, or property.

Second: The premonitory symptoms, apparent cause, the class of insanity, the duration and condition of disease.

Third: The nativity, age, residence, occupation, and previous habits of the person.

Fourth: The place from whence the person came, and the length of his residence in this State.

SEC. 2217.—*Duty of the Judge and Clerk on Commitment of Insane.*

The Judge after such examination and certificate made, if he believes the person so far disordered in his mind as to endanger health, person, or property must make an order that he be confined in the insane asylum. A copy of such order shall be filed with a record by the clerk of the county. The clerk shall

also keep in convenient form an index book, showing name, age, and sex of person so ordered to be confined in the insane asylum, with the date of the order and the name of the insane asylum in which the person is ordered to be confined. No fees shall be charged by the clerk for performing any duties provided for by this section.

SEC. 2222.—*Fees of Physicians.*

The physicians attending such examination of an insane person, are allowed five dollars, which are to be paid by the Treasurer of the county where the examination was had, on the order of the supervisors.

CODE OF COLORADO, 1883.

2281—SECTION 28: (2)—*Arrest of various lunatics—Inquest—Verdict—Commitment—Custody.*

Whenever any reputable person shall file with the county court a complaint duly verified, alleging that any person is so insane or distracted in mind as to endanger his own person or property, or the person or property of any other or others, if allowed to go at large, the county court or Judge thereof shall forthwith issue an order in the name of the people direct to any sheriff or constable of the county for the apprehension of such alleged insane person, which order may be executed by any sheriff or constable of said county, or by any person especially appointed by said court to execute the same; *provided*, that when any sheriff or constable shall find within his county any such insane person at large, it shall be his duty to apprehend such insane person without an order of the court. And when any alleged insane person shall be arrested by, or without an order of the court, he or she shall be taken forthwith before the county court, or Judge thereof, and if the alleged insane person so elect, an inquest as provided for in Section 1 shall be held without delay; and until the determination of such inquest, such alleged insane person shall be confined in the county jail or other convenient place. If upon such inquest it shall be found in the verdict of the jury that such alleged insane person is so insane or distracted in mind as to endanger his or her own personal property, or the person or property of any other or others, if allowed to go at large, it shall be the duty of the court to commit such insane person to the county jail or other convenient place, to be there confined until discharged on inquest or otherwise disposed of according to law. * * * * *

2237—SEC. 34.—*Definition of the term "Lunatic."*

The term lunatic, as used in this chapter, shall be construed to include idiots insane and distracted persons, and every person who, by reason of intemperance or any disorder, or unsoundness of mind, shall be incapable of managing and caring for his own estate.

SEC. 2241.—*Superintendent and Commissioners to report annually.*

The superintendent of the Board of Commissioners shall make a report to the Governor on or before the 1st day of December in each and every year, showing the condition of the asylum financially, number, age, sex, occupation, and residence, treatment and state of reform of persons admitted from the date of opening of the asylum or from the date of the last report, together with such other facts as their experience and observation may approve and may deem in the interest of the public; the Governor shall cause such reports to be published, and he shall present them to the next General Assembly. * *

ACTS OF CONNECTICUT, 1889.

CHAPTER CLXII, SECTION 1.—In this act, the words and expressions following shall have the several meanings hereby assigned to them, unless there is something in the subject or context repugnant to such construction, that is to say: "Asylum" means any public or private hospital, retreat, institution, house, or place, in which any insane person is received or detained as a patient for compensation; but shall not include any State prison, county jail, or poorhouse, nor any public reformatory or penal institution of this State. "Insane person" means and shall include every idiot, non-compos, lunatic, insane, and distracted person. "Patient" means any person detained and taken care of as an insane person. The words "keeper of an asylum" mean any person, body of persons, or corporation, who have the immediate superintendence, charge, management, and control of an asylum and the patients therein. Words importing the masculine gender may be applied to females.

SEC. 2.—Any Judge of a Probate Court, within his probate district, shall have power to commit any insane person residing in said district to an asylum in this State, in the manner hereinafter provided.

SEC. 3.—Except when otherwise specially provided by law, no person shall be committed or admitted to an asylum without an order signed by a Judge of Probate, as hereinafter provided.

SEC. 4.—Whenever any person in this State shall be insane, or shall be supposed to be insane, any person may make complaint in writing to any Judge of Probate, within whose district the person complained of shall reside, alleging that such person is insane and is a fit subject to be confined in an asylum, and when any insane person, who ought to be confined, shall go at large in any town, any person may, and the Selectmen thereof shall, make a like complaint to the Judge of Probate within whose district such town is included. After receiving said complaint, the Judge to whom it is made shall forthwith appoint a time, not later than ten days after receipt of said complaint, and a place within said district, for a hearing upon said complaint, and shall

cause reasonable notice thereof to be given to said complainant, to the person complained of, and to such relative or relatives of said person, or to any person interested in said person, as said Judge shall deem proper, and may adjourn said hearing from time to time for cause. Said Judge may issue a warrant for the apprehension and bringing before him of said person complained of, and shall see and examine said person, if in his judgment the condition or conduct of such person renders it necessary and proper so to do, or state in his final order why it was not deemed necessary or advisable so to do.

SEC. 5.—In addition to such oral testimony as may be given before such Judge, at said hearing, there shall be filed with such Judge a certificate signed by two physicians, each of whom is a graduate of some legally organized medical institution, and has practiced three years in this State, and neither of whom is connected with any asylum nor related to the person complained of by blood or marriage. Each must have personally examined said person alleged to be insane, within five days of signing said certificate, and each shall certify that, in his opinion, said person is insane and a proper subject for treatment in an asylum; and a copy of said certificate, attested by said Judge, shall be attached to the final order of said Judge and delivered with said order to the keeper of the asylum to which said insane person shall be committed.

SEC. 6.—If, on said hearing, the Judge shall find that the said person is insane, and a fit subject for treatment in an asylum, or that he ought to be confined, he shall make an order in writing, stating that he so finds, and commanding some proper officer, or any fit person, to convey said insane person to the asylum named in said order, unless some person shall undertake, before said Judge, and shall give bond to the State conditioned to confine such person in some suitable place of detention, not an asylum, in such manner as said Judge shall order. * * * * *

SEC. 16.—All insane persons confined in any asylum in this State shall be entitled to the benefits of the writ of habeas corpus, and the question of insanity shall be determined by the court or Judge issuing such writ, and if the court or Judge before whom such case is brought shall decide that the person is insane, such decision shall be no bar to the issuing of said writ a second time, if it shall be claimed that said person has been restored to reason. Said writ may be applied for by said insane person, or on his behalf by any relative, or friend, or person interested in his welfare.

SEC. 17.—The provisions of this act shall not extend to, nor affect in any way the cases of persons convicted of or charged with crime, as provided for in the following sections of the general statutes, to wit: Sections 1600, 1601, 1602, 1603, 3385, 3386, 3615, 3617, 3618, 3619, 3620, and 3621; nor shall they be construed as repealing sections 487, 3683, and 3684 of said general statutes.

SEC. 18.—The keeper of any asylum in this State may receive and detain therein, as a patient, any person who is desirous of submitting himself to treatment, and makes written application therefor, but whose mental condition is not such as to render it legal to grant an order of commitment as an insane person in his case, under the provisions of this act. No such patient shall be detained for more than three days after having given notice in writing of his intention or desire to leave said asylum.

SEC. 19.—An attorney at law regularly retained by, or on behalf of, any patient in an asylum, or any medical practitioner designated by such patient, or by any member of his family, or by some relative or friend of such patient, shall be admitted to visit such patient at all reasonable hours, if in the opinion of the keeper of said asylum such visit would not be injurious to said patient, or if a Judge of the Superior Court first orders in writing that such visit be allowed.

SEC. 20.—All persons detained as insane shall at all times be furnished with materials for communicating with any suitable person without the asylum, and such communications shall be stamped and mailed daily. Should the patient desire it, all rational communications shall be written at his dictation and duly mailed to any relative or person named by the patient.

SEC. 22.—All asylums in this State shall be subject to the inspection and visitation of the State Board of Charities, and shall be so visited and inspected at least once in six months in each year.

SEC. 23.—Every person who wilfully conspires with any other person unlawfully to commit to an asylum any person who is not insane, and any person who shall wilfully and falsely certify to the insanity of any person in any certificate made and filed as provided for in this act, and any person who shall wilfully and falsely report to any court or Judge that any person is insane, shall be punished by a fine not exceeding one thousand dollars, or by imprisonment in the State prison not exceeding five years, or both.

SEC. 24.—Every keeper of an asylum who shall wilfully violate any of the provisions of sections three, eighteen, nineteen, and twenty of this act shall be deemed guilty of a misdemeanor, and may be punished by a fine not exceeding two hundred dollars, or by imprisonment in a common jail not exceeding one year, or both, at the discretion of the court.

SEC. 25.—All acts or parts of acts inconsistent herewith are hereby repealed.

LAWS OF DAKOTA TERRITORY, 1887.

SECTION 2179.—*Appointment of Commissioners of Insanity.*

In each organized county of this Territory there shall be a board of commissioners consisting of three persons, to be styled Commissioners of Insanity, two of whom shall constitute a quorum. * * * * *

SEC. 2182.—*Duties of the Commissioners and their Power.*

The said commissioners shall have cognizance of all applications for admission to the hospital, or for the safe keeping otherwise of insane persons within their respective counties, except in cases otherwise specially provided for. For the purpose of discharging the duties required of them, they shall have the power to issue subpoenas and compel obedience thereto, to demonstrate this and any act of the court necessary and proper in the premises.

SEC. 2183.—*Application for Admission to the Hospital.*

Application for admission to the hospital must be made in writing, in the nature of an information, verified by affidavit. Such information must allege that the person on whose behalf application is made is believed by the informant to be insane, and a fit subject for custody and treatment in the hospital; if such person is found in the county and has a legal settlement therein, if such is known to be the fact; and if such settlement is not in the county, where it is, if known, or where it is believed to be if the informant is advised on the subject.

SEC. 2184.—*Investigation by Commissioners as to the Alleged Insanity—Physician's Certificate.*

On the filing of the information as above provided, the commissioners shall at once take steps to investigate the grounds of the information. For this purpose they may require that the person for whom such admission is sought be brought before them, and that the examination be had in his or her presence, and they may issue their warrant therefor and provide for the suitable custody of such person until their investigation shall be concluded. * * * Any citizen of the county, or any friend of the person alleged to be insane, may appear and resist the application, and the parties may appear by counsel if they elect. The commissioners, whether they decide to dispense with the presence before them of such person or not, shall appoint some regular practicing physician of the county to visit or see such person, and make personal examination touching the truth of the allegations in the information touching the actual condition of such person, and forthwith report to them thereon. Such physician may or may not be of their own number, and the physician so acting shall certify, under his hand, that he has in pursuance of his appointment, made careful personal examination as required, and after such examination he found the person in question insane, if such be the fact; and if otherwise, not insane; and in connection with this examination the said physician shall endeavor to obtain from the relatives of the person in question, or through other friends who know the facts, correct answers as far as may be to the interrogatories hereinafter required to be propounded in such cases, and such interrogations and answers shall be attached to this certificate.

SEC. 2185.—*How Patients Should be sent to the Hospital.*

On the return of the physician's certificate, the commissioners shall, as soon as practicable, conclude their investigations, and having done so they shall find whether the person alleged to be insane, is insane; whether, if insane, a fit subject for treatment and custody in the hospital; whether the alleged settlement of such person is in their county, if not in their county where it is, if ascertained. If they find such person is not insane, they shall order his or her discharge, if in custody. If they find such person insane and a fit subject for treatment and custody in the hospital, they shall forthwith issue their warrant and a duplicate thereof, stating such a finding, with the settlement of the person, if found, and if not found, their information, if any, in regard thereto, authorizing the superintendent of the hospital to receive and keep such person therein. Such warrant and duplicate, with the finding and certificate of the physician, shall be delivered to the sheriff of the county, who shall execute the same by conveying such person to the hospital and delivering him or her, with the duplicate of the physician's certificate and finding, to the superintendent thereof. The superintendent, over his official signature, shall acknowledge such delivery on the original warrant, which the sheriff shall return to the clerk of the commissioners, with his cost and expenses endorsed thereon.

* * * * *

SEC. 2190.—*Penalty for Cruelty to the Insane.*

Any person having care of any insane person and restraining such person, either with or without authority, who shall treat such person with wanton severity or harshness, or shall in any way abuse such person, shall be guilty of a misdemeanor, besides being liable to an action for damages.

SEC. 2199.—*Postal Privileges of Inmates.*

Henceforth each and every inmate of each and every insane asylum, both public and private, in the Territory of Dakota, shall be allowed to choose one individual from the outside world, to whom he may write, when or whatever he desires, and over these letters to this individual there shall be no censorship exercised or allowed by any asylum official or employees; but their post-office rights, so far as this one individual is concerned, shall be as free and unrestricted as are those of any other resident and citizen of the Territory of Dakota, and shall be under the protection of the same postal laws; and each and every inmate shall have the right to make a new choice of this individual party every three months if he so desires to do. And it is hereby made the duty of the superintendent to furnish each and every inmate of the insane asylum in this Territory, either public or private, with suitable material for writing, enclosing, sealing, stamping, and mailing letters, sufficient at least for the writing of one letter a week, providing they request the same, unless they

are otherwise furnished with such material; and all such letters shall be dropped by the writers thereof, accompanied by the attendant when necessary, into a post-office box provided at the insane asylum and kept in some place easy of access to all patients. The attendant is required in all cases to see that this letter is directed to the patient's correspondent, and if it is not so directed it must be held to the disposal of the superintendent; and the contents of this box shall be collected once every week by an authorized person of the Post-office Department, and by him placed in the hands of the United States mail for delivery.

LAWS OF DELAWARE, 1887.

TITLE 60, CHAPTER 92. SECTION I.—*Proceedings in the Case of Indigent Lunatics.*

Be it enacted (etc.) that whenever the relatives or friends of an indigent lunatic or insane person, a citizen of this State, shall apply to the Chancellor of this State, either personally or by petition, together with the certificate of two practicing physicians of the county wherein such lunatic or insane person shall reside, one of whom shall be the regular physician of the Almshouse of said county, setting forth the facts of said lunacy or insanity, the cause or causes, if known, and the necessity in their opinion of a better and more efficient mode of medical treatment in such case than can be afforded in the Almshouse wherein such lunatic or insane person may reside, the Chancellor shall, if satisfied with the proofs offered of such lunacy or insanity, refer such applications to the Trustees of the Poor of said county for information as to indigency of said person for whom application is made, or any other matter; whereupon, if said reports be satisfactory, the Chancellor shall recommend to the Governor that such indigent lunatic or insane person be removed to the Insane Department of the New Castle County Almshouse; *provided*, that not more than ten indigent lunatic or insane persons from each of the counties of Kent and Sussex shall be in said asylum at the same time; and provided further, that this shall not prevent the Trustees of the Poor of either county of Sussex or Kent from placing any indigent lunatic or insane person, that may be placed in their keeping, in the said Insane Department of the New Castle County Almshouse for whom no application may be made, and who, in their opinion, may require special treatment.

SECTION 3.—*When Indigent Lunatics may be Returned.*

That whenever the principal physician of the Insane Department of the New Castle County Almshouse shall represent to the Trustees of the Poor of the county from which said indigent lunatic or insane person may have been entered, that any such person has been cured by the treatment prescribed, or they are so far benefited and improved in condition as to render his or

her further residence in said Insane Department unnecessary; or that the said person is, after full and sufficient opportunity, incurable; then he or she shall, upon the written request of said Insane Department, if cured or relieved as aforesaid, be discharged from said institution; or if incurable as aforesaid, be returned to the Almshouse for cure and confinement.

LAWS OF DELAWARE, 1889.

CHAPTER 553, SECTION 9.—In all cases of application for the commitment of an insane person to the hospital, the evidence and certificate of at least two respectable physicians, based upon due inquiry and personal examination of the person to whom insanity is imputed, shall be required, to establish the fact of insanity, and a certified copy of the physician's certificate shall accompany the person to be committed, together with the written order of the Trustees or Chancellor, as provided in Section 6 of this act.

DIGEST, LAWS OF FLORIDA, 1881.

CHAPTER 147.—LUNATICS. SECTION 3.—*Duty of the Circuit Judge.*

Whenever it shall be suggested, by petition or otherwise, to any Judge of the Circuit Court of this State, that there is any lunatic or insane person within the limits of the judicial circuit of said Judge incapable of managing his or her own affairs or of taking care of himself or herself, it shall be the duty of said Judge to issue a writ to the Sheriff of the county wherein such lunatic or insane person is alleged to be, directing him to bring such person before him for the purpose of inquiring into the alleged lunacy or insanity.

SEC. 4.—If it is found upon investigation that such person is a lunatic, or insane, the Judge shall pass such order or decree as is usually necessary in such cases.

SEC. 6.—*Order for Lunatic to be taken to the Asylum. Order for Private care of Lunatic.*

If it shall appear that said lunatic or insane person is destitute, then the Judge shall draw an order that the Sheriff shall transport such lunatic or insane person to the Asylum for the Indigent Lunatics of the State of Florida, and there deliver the lunatic or insane person to the officer having charge of same, for the purpose of his care, custody, and treatment; *provided*, however, that the Judge may, in his discretion, direct the said lunatic or insane person to be delivered to any other person for his care, custody, and maintenance, in which event the said insane person shall be so delivered, and it shall be the duty of the person to whom such delivery is made, to provide for his care, custody, and maintenance.

* * * * *

SEC. 12.—*Care of Lunatics for Pay.*

It shall be lawful for the physician in charge of the Asylum for Indigent Lunatics of the State of Florida, when directed by the Board of Commissioners of State Institutions, to receive into said asylum any lunatic, idiot, or insane person, whose friends, parents, or guardians are able and willing to pay for the care and custody and maintenance of said lunatic, idiot, or insane person.

SEC. 13.—*Attention, etc.*

Such lunatic, idiot, or insane person shall receive all care, food, clothing, and medical attention, as he or she may demand and require, from the physician and other employees of the asylum.

SEC. 17.—*Powers.*

The physician of the asylum shall have sole supervision of and immediate superintendence of the Asylum for Indigent Lunatics of the State, subject to the direction of the Board of Commissioners of State Institutions.

SEC. 19.—*Physician.*

The physician of the State Prison shall also be the physician for such asylum, and shall exercise such powers in the matter of care of the inmates of such asylum, as may be prescribed by said Board of Commissioners.

ACTS OF FLORIDA, 1887.

CHAPTER 3706. SECTION 1.—*Physicians of Asylum to Keep Record of Patients, etc.*

That it shall be the duty of the physician in charge of the Insane Asylum of this State to thoroughly investigate the history of patients, and upon careful diagnosis of same make a record thereof in a book of sufficient magnitude, which book shall be termed the "Physician's Book of Record;" and such record shall contain the name of each person who may thus come under his treatment, the name of the disease to be treated, and the date of beginning treatment, and each day's prescriptions while under treatment; which record shall be open for future reference by his successor, the cabinet officers, legislative committees, and all others interested.

ACTS OF 1883.

CHAPTER 3444. SECTION 1.—*Fee and Mileage.*

That hereafter any practicing physician who shall be called in by the Circuit Judge to testify on an investigation as to lunacy or insanity of an indigent person who shall be alleged to be a lunatic or insane, shall be paid the sum of five dollars, and ten cents per mile, by the State, out of appropriations for the maintenance of indigent lunatics and insane persons; the same shall be audited by the Comptroller on the approval of the Circuit Judge, and paid by the Treasurer on the Comptroller's warrant.

CODE OF STATE OF GEORGIA, 1882.

SEC. 331 (5).—The State Asylum is intended for the care of lunatics, idiots, epileptics, or demented inebriates. Inmates are divided into four classes: (1) Pay or pauper patients, residents of the State. (2) Pay patients, who are non-residents. (3) Insane Penitentiary convicts. (4) Insane negroes, in certain cases. Citizens of Georgia have a preference over non-residents.

Resident pay patients are admitted upon authentic evidence of lunacy according to law, or by a certificate of three respectable physicians and two respectable citizens. * * * * *

LAWS OF 1889.

Providing for the Appointment of Guardian or Commitment to Lunatic Asylum.

SECTION I.—*To have Guardian Appointed or Subject Committed to Lunatic Asylum.*

Upon the petition of a person on oath, setting forth that another is liable to have a guardian appointed under the provision of this act (or is subject to be committed to the lunatic asylum of this State), the Ordinary, upon the proof, if ten days' notice of such application has been given to the three nearest adult relatives of such person, or if there is no such relative within this State, shall issue a commission direct to any eighteen discreet and proper persons, one of whom shall be a physician, requiring any twelve of them, including the physician, to examine by inspection the person for whom guardianship (or commitment to asylum) is sought, and to hear and examine witnesses on oath, to make return of such examination and inquiry to said Ordinary, specifying in such return under which such classes they found said person to come; such commission shall be sworn by any of the officers of this State authorized by the laws of this State to administer an oath, "well" and truly to execute said commission, to the best of their skill and "ability," which oath shall be returned with their verdict.

STATUTES OF IDAHO, 1887.

SECTION 750.—The Idaho Insane Asylum, located at Blackfoot, is under the management and control of a Board of Directors, consisting of three persons. * * * * *

SEC. 756.—The Medical Superintendent must be a graduate of medicine, and must have practiced in his profession five years after date of his diploma.

SEC. 757.—*Must reside at and give his entire Time to the Asylum.*

He must reside at the asylum and give his entire time and attention to pro-

mote the best interests of the patients. His duties not specified in this chapter must be prescribed by the Board of Directors' by-laws.

SEC. 758.—*General Powers.*

He is the chief executive officer of the asylum, with powers and duties as follows :—

To control the patients, prescribe the treatment, and prescribe and enforce the sundry regulations of the asylum.

SEC. 764.—*Discharge.*

Any person received in the asylum must, upon recovery, be discharged therefrom.

SEC. 767.—*Not Eligible for Admission.*

No person laboring under any contagious or infectious disease must be admitted into the asylum as a patient.

SEC. 769.—*Examination before whom.*

When it appears by affidavit, to the satisfaction of a Magistrate of a county, that any person within the county is so far disordered as to endanger health, person, or property, he must issue and deliver to some peace officer, for service, a warrant directing that such person be arrested and taken before any Judge of a court of record within the county, for examination.

SEC. 771.—*One Physician.*

The Judge may also issue subpoenas for at least one graduate of medicine to appear and attend such examination.

SEC. 773.—*Duty of Physician.*

The physician must hear such testimony and must make a personal examination of the alleged insane person.

SEC. 774.—*Certificate of Physician.*

The physician after hearing the testimony and making the examination, must, if he believes the person to be dangerously insane, make a certificate in his own handwriting, showing as near as possible—

(1) That such person is so far disordered in his mind as to endanger health, person, and property.

(2) The premonitory symptoms, apparent cause, or class of insanity, and the condition of the disease.

(3) The nativity, age, residence, occupation, and previous habits of the person.

(4) The place from whence the person came and the length of his residence in this Territory.

SEC. 776.—*Order of the Judge.*

The Judge, after such examination and certificate made, if he believes the person so far disordered in his mind as to endanger health, person, and property, must make an order that he shall be confined in the Insane Asylum.

SEC. 778.—*Money found on Insane Persons must be delivered to the Asylum.*

Any money found on the person of an insane person at the time of the arrest must be certified to by the Judge, and sent with such person to the asylum, there to be delivered to the Medical Superintendent, who must deliver the same to the Territorial Treasurer. If the sum exceed one hundred dollars, the excess must be applied to the payment of expenses of such person while in the asylum, and delivered to the person when discharged, or applied to the payment of funeral expenses if the person dies at the asylum.

SEC. 781.—*Fee of Physician.*

The physician attending each examination of an insane person is allowed five dollars, to be paid by the County Treasurer of the county where the examination was had, on the order of the Board of County Commissioners.

STATUTES OF ILLINOIS, 1881.

CHAPTER 85, PAGE 950.—LUNATICS. SECTION 1. *Petition.*

That when a person is supposed to be insane or distracted, any near relative, or in case there be none, any respectable person residing in the county, may petition the Judge of the county court for proceedings to inquire into the alleged insanity or distraction. For the hearing of such applications and proceedings thereof the county court shall be considered as always open.

SEC. 2.—*Writ-Service.*

Upon the filing of such petition the Judge shall order the clerk of the court to issue a writ, directed to the Sheriff or any constable, or the person having custody of the alleged insane or distracted person, unless he shall be brought before the court without such writ, requiring the alleged insane or distracted person to be brought before him at a time and place to be appointed for the hearing of the matter. It shall be the duty of the officer or person to whom the writ is directed to execute and return the same and bring the alleged insane person before the court as directed in the writ.

SEC. 4.—*Jury Trial.*

At the time fixed for the trial, a jury of six persons, one of whom shall be a physician, shall be impaneled to try the case. The case shall be tried in the presence of the person alleged to be insane, who shall have the right to be assisted by counsel, and may challenge the jurors as in civil cases; the court may for good cause continue the case from time to time.

SEC. 5.—*Verdict.*

After hearing the evidence the jury shall render their verdict in writing, signed by them, which shall embody the substantial views shown by the evidence.

SEC. 6.—*Verdict Recorded; Order of Committal; Application.*

Upon the return of the verdict the same shall be recorded at large by the Clerk, and if it appears that the person is insane and is a fit person to be sent to the State Hospital for the Insane, the court shall enter an order that the insane person be committed to the State Hospital for the Insane; and thereupon it shall be the duty of the Clerk of the Court to make application to the Superintendent of some of the State Hospitals for the Insane for the admission of such person.

SEC. 8.—*Warrant to Commit.*

Upon receiving notice at what time the patient will be received, the clerk shall, in due season for the conveyance of the person to the hospital by the appointed time, issue a warrant directed to the Sheriff, or any other suitable person, preferring some relative of the insane person when desired, commanding him to arrest such person and convey him to the hospital; and if the clerk is satisfied that it is necessary, he may authorize an assistant to be employed.

SEC. 18.—*Discharge of Patients; Notice; Removal.*

Whenever the Trustees shall order any patients discharged, the Superintendent shall at once notify the clerk of the county court of the proper county thereof (if the patient is a pauper [and if not, shall notify all the persons who signed the bonds required in Section 15 of this Act] and request the removal of the patient); if such patient be not removed within thirty days after such notice is received, then the Superintendent may return him to the place from whence he came, and the reasonable expense thereof may be recovered by suit on the bond, or in case of the pauper, shall be paid by the profit paid to the county.

SEC. 20.—*Restoration to Reason; discharge.*

When any patient shall be restored to reason, he shall have the right to leave the hospital at any time, and if detained therein contrary to his wishes after such restoration, shall have the privilege and right of habeas corpus at all times, either on his application or that of any other person in his behalf. If the patient is discharged on such writ, and if it shall appear that the Superintendent has acted in bad faith or negligently, the Superintendent shall pay all the costs of the proceedings. Such Superintendent shall moreover be liable to civil action for false imprisonment.

SEC. 22.—*Trial by Jury Necessary.*

No Superintendent or other officer, or person connected with either of the State Hospitals for the Insane, or with any other hospital or asylum for the insane or distracted persons in this State, shall receive, detain, or keep in custody at such hospital or asylum, any person who shall not have been declared insane by the verdict of a jury and authorized to be confined by the order of a court of competent jurisdiction; and no trial shall be had questioning the sanity or

insanity of any person before any judge or court, without the person being present alleged to be insane.

ACTS OF INDIANA, 1881.

SECTION 2835.—*Duties of the Trustees.*

The Trustees shall be entrusted with the general control and management of the hospital. * * * * *

SEC. 2837.—*Proceedings.*

The Trustees shall keep a full account of their proceedings in a book to be provided for that purpose. The officers of the institution shall make reports to the Trustees as they may from time to time require. The Superintendent and Treasurer shall severally make full reports to be submitted at their annual meetings.

SEC. 2840.—*Powers and Duties.*

The Superintendent shall be the chief executive officer of the hospital, and shall have the care and control of everything connected therewith. He shall see that the several officers of the institution faithfully and diligently discharge their respective duties. He shall employ such attendants, nurses, servants, and other persons he may think proper, and assign them to their duties, and may at pleasure discharge them. He shall receive from the proper persons the patients entitled to admission in the hospital, and when cured discharge them. In all cases, however, he shall be subject to the control of the Trustees.

SEC. 2841.—*Reports.*

The Superintendent shall make reports to the Trustees as required by Section 2837.

SEC. 2842.—*Admission of Patients.*

All insane persons residing in the State of Indiana, and having legal settlement in any county therein, shall be entitled to be maintained and receive medical treatment in the Indiana Hospital for the Insane at the expense of the State. * * * * *

SEC. 2844.—*Examination.*

The Justice of the Peace with whom said statements shall have been filed, together with another Justice of the Peace and a respectable practicing physician other than the medical attendant of the person alleged to be insane, who shall be elected by the aforesaid Justice of the Peace, and who shall reside in the proper county, shall immediately thereupon visit and examine the person alleged to be insane, in relation to his mental condition.

SEC. 2847.—*Medical Certificate.*

They shall require the medical attendant to make, on oath, a written statement of the medical history and treatment given to the case. * * *

SEC. 2852.—*Superintendent's Duties.*

Upon receiving said application and transcribed statements and certificates, the Superintendent of the Hospital for the Insane shall immediately, upon the information therein contained, determine whether the case is recent and presumably curable, or chronic and less curable, or idiotic and incurable. If the case be recent and curable, the Superintendent shall at once notify the proper clerk of the acceptance of the application for admission; if the case be chronic, whether curable or incurable, an acceptance shall issue as above, provided that there be room in the hospital for more patients than are at present resident therein, together with those recently accepted but not admitted; otherwise the application shall be rejected. In the selection of chronic cases for admission, each county shall be entitled to a just proportion, according to its population, and priority of application shall have recognition.

SEC. 2862.—*Recurrence of Insanity.*

Any person who has ever been adjudged insane according to law, within the State of Indiana, and has been formally discharged from any Hospital or Asylum for the Insane within the State, shall not again be admitted to any such hospital or asylum "except upon the affidavit of a respectable practicing physician of the county where the patient resides, that he knows the patient, that he has been adjudged insane, that he has been in a hospital, that he is insane and a proper subject for treatment." He must state the reasons of his opinion.

SEC. 2863.—*Discharge.*

Any patient may be discharged from the hospital by the Superintendent upon restoration to health; and incurable and harmless patients shall be discharged whenever it is necessary to make room for recent cases. All dangerous patients shall be retained in the hospital.

CODE OF IOWA, 1889.

SECTION 1395.—In each county there shall be a Board of three Commissioners of Insanity; the Clerk of the Circuit Court shall be a member of such Board and clerk of the same; the other members shall be appointed by the Judge of said court. One of them shall be a respectable practicing physician, and the other a respectable practicing lawyer. * * * * *

SEC. 1399.—Application for admission to the hospital must be made in the form of information, verified by affidavit, alleging that the person in whose behalf the application is made is believed by the informant to be insane and a fit subject for custody and treatment in the hospital; that such person is found in the county and has a legal settlement therein, if such is known to be the fact; and if such settlement is not in the county, where it is, if known, or where it is believed to be if the informant has advice on the subject.

SEC. 1400.—On the filing of such information, the Commissioners may

examine the informant under oath, and if satisfied there is reasonable cause therefor, shall investigate the ground thereof, and for this purpose they may require that the person for whom admission is sought be brought before them and that the examination be had in his presence; and they may issue their warrant therefor, and provide for the suitable custody of such person until their investigation shall be concluded. Such warrant may be executed by the Sheriff or any constable of the county; or if they shall be of the opinion from such preliminary inquiries as they may make—and in making which they shall take the testimony of the informant, if they deem it necessary or desirable, and of other witnesses, if offered—that such course would probably be injurious to such person, or attended with no advantage, they may dispense with such person. In their examination they shall hear testimony for and against such application, if any is offered. Any citizen of the county, or any relative of the person alleged to be insane, may appear and resist the application, and the parties may appear by counsel if they elect. The Commissioners, whether they dispense with the presence before them of such person, or not, shall appoint some regularly practicing physician of the county to visit such person, and make a personal examination touching the truth of the information, and the mental condition of such person, and forthwith report to them thereon. Such physician may or may not be one of their own number; and the physician so appointed and acting shall certify, under his hand, that he has in pursuance of his appointment made a careful personal examination as required; and that on such examination he finds the person in question insane, if such is the fact; and if otherwise, not insane; and in connection with his examination the said physician shall endeavor to obtain from the relatives of the person in question; or from others who know the facts, correct answers, as far as may be, to the interrogatories hereinafter required to be propounded in such cases; such interrogatories and answers to be attached to his certificate.

SEC. 1401.—On return of the physician's certificate, the Commissioners shall, as soon as practicable, conclude their investigation, and shall find whether the person alleged to be insane, is insane; whether if insane, a fit subject for treatment and custody in the hospital; whether the alleged settlement of such person is in their county, and if not in their county, where it is if ascertained. If they find that such person is not insane, they shall order his immediate discharge if in custody. If they find such person insane and a fit subject for custody and treatment in the hospital [they shall order said person to be committed to the hospital, unless said person so found to be insane (or some one in his or her behalf) shall appeal from the finding of the said Commissioners] they shall forthwith issue their warrant and a duplicate thereof, stating such finding, with the settlement of the person, if found; and if not found, their information, if any, in regard thereto, authorizing the superintendent of the

hospital to receive and keep such person as a patient therein; such warrant and duplicate, with the certificate and finding of the physician, shall be delivered to the Sheriff of the county, who shall execute the same by conveying such person to the hospital, and delivering him, with such duplicate and physician's certificate and finding, to the superintendent thereof. * * *

SEC. 1424.—Any patient, who is cured, shall be immediately discharged by the superintendent. Upon such discharge, the superintendent shall furnish the patient, unless otherwise supplied, with suitable clothing and a sum of money not exceeding twenty dollars, which shall be charged with the other expenses in the hospital of such patient. The relatives of any patient not susceptible of cure by remedial treatment in the hospital, and not dangerous to be at large, shall have the right to take charge of, or remove such patient on consent of the Board of Trustees. In the intermediate meetings of the Board, the consent of two Trustees shall be sufficient.

GENERAL STATUTES OF KANSAS, 1889.

SECTION 260 (6186).—*Government.*

The government of insane asylums of the State shall be vested in the Board of Trustees of the Institutions for * * * * insane.

SEC. 261 (6187).—*Application.*

The Board of Trustees shall designate the superintendent of one of the insane asylums, to whom all applications for the admission of insane persons shall be made; and who, under such rules as may be made by the Board of Trustees, shall designate to which asylum each applicant shall be admitted. * * *

SEC. 263 (6189).—*Medical and Executive Officer.*

The superintendent shall be the executive officer of the asylum, and shall have control of all the affairs of the asylum, subject to the direction of the Board of Trustees. * * * * He shall make to the Board of Trustees at least semi-annual reports showing the movements of the population and the operations of the asylum during the period embraced therein; and at the close of the biennial period, he shall report in detail the conditions of the asylum and all of its concerns.

SEC. 266 (6192).—*Abstract of Correspondence.*

A full abstract of all correspondence relating to the admission of patients, their treatment, and all other matters of an official nature and the replies thereto, shall be kept by the superintendent. He shall also cause to be kept a complete record of each case, and the treatment thereof, and prescription book, with the date when it was appointed and administered, and such other records as may be necessary to give the board and the public a full knowledge of all prescriptions and business of the medical department.

STATE OF KENTUCKY, STATUTES, 1881.

CHAPTER 73, SECTION 4.—*Officers of the Asylum.*

There shall be for each asylum a medical Superintendent who shall be a skillful physician, and a steward; and for the Eastern Kentucky Asylum a first and a second assistant physician; and for the Central Kentucky Asylum one assistant physician. These officers shall reside in the asylum. * * *

SEC. 5.—*Duties of Medical Superintendent.*

A medical Superintendent shall have general management, supervision and control of patients and the asylum, subject to the regulations of the Board of Commissioners, and shall devote his entire time thereto. He shall keep a register of all patients, showing their names, ages, residences, dates of reception and discharge or death, by whose authority received, and whether they are pay-patients or paupers.

The Superintendent shall appoint all such other inferior officers and employees (not otherwise provided for in this act) as he may deem necessary for the proper management of the institution; and he may remove any of them at pleasure and fill their places with others.

SEC. 14.—*Discharge of Patients.*

No private patient who has not been found to be insane by regular inquest, shall be received into either of the State asylums. Nor shall any patient be discharged as cured or delivered to the custody of friends, whose friends have placed him in the asylum, but by permit of the Superintendent and Commissioners. Any cured patient who was committed to the asylum whilst in custody of the law upon a criminal charge, shall be delivered to the keeper of the penitentiary, or to the jailor of the county, as the case may require.

A cured pauper before being discharged shall have a good suit of clothes, and be furnished with money enough to pay his traveling expenses back home, not exceeding twenty dollars.

SEC. 20.—*Report of Superintendent and Board.*

The Superintendent and the Board of Commissioners shall, on or before the 1st of November of each year, make a report to the Governor of the condition of the asylum in their charge, * * * * number and names of patients, (distinguishing pauper from pay-patients and certifying the place from which they came), the number received and discharged each year, with such other facts and suggestions they may deem important, which report the Governor shall communicate to the Legislature at its next regular session.

SEC. 9.—*Presence of the Person Necessary.*

No inquest shall be held unless the person charged to be of unsound mind is in the court and personally in the presence of a jury. The personal presence of the person charged shall not be dispensed with unless it shall appear by the

oath or affidavit of two physicians that they made personal examination of the individual charged to be of unsound mind, and that they verily believe him to be an idiot or lunatic, as the case may be, and that his condition is such that it may be unsafe to bring him into court.

STATUTES OF LOUISIANA, 1876.

SECTION 1768.—*Lunatics, How Admitted.*

Whenever it shall be known to the Judge of a district or parish court, by the petition on oath of any individual, that any lunatic or insane person within his district ought to be sent or confined in the insane asylum of this State, it shall be the duty of said district or parish Judge to issue a warrant to bring before him said lunatic or insane person, and after inquiry into all the facts and circumstances of the case, if in his opinion he ought to be sent or confined in said asylum, he shall make out his warrant to the Sheriff of the parish, commanding him to convey the lunatic or insane person to the insane asylum. *

* * *

SEC. 1776.—*Examination by Physician.*

The physician of the asylum shall professionally examine the lunatic or insane person sent to the asylum by the authority of the district or parish Judge, and if in his opinion said person is only feigning insane, being a person charged with felonious crime, he shall report to the Board, who shall investigate the facts, and if in the judgment of the majority said person shall not be admitted as an inmate of the asylum, the President of said board shall cause said person feigning insanity, and who had been previously committed to prison for a crime, to be confined in the parish jail, and shall immediately inform the president of the police of the parish, or a proper authority in the Parish of Orleans, where the rejected person has his domicile, of the fact and the reason of his rejection; and the provisions of this section shall also apply to such persons charged with a crime who afterward recover and become sane in said asylum.

ACTS OF LOUISIANA, 1888.

SECTION I.—*Postal Rights of Inmates.*

Be it enacted by the General Assembly of Louisiana, that henceforth each and every inmate of each and every insane asylum, both public and private, in the State of Louisiana, shall be allowed to choose one individual to whom he or she may write, when and whatever he or she desires, and over these letters to this individual there shall be no censorship exercised or allowed by any of the asylum officials or employees; but their post-office privilege shall, so far as this one individual is concerned, be as free and unrestricted as are those of any other resident or citizen of the State of Louisiana, and shall be under the protection of the same postal laws; and each and every inmate shall have the right to

make a new choice of this individual every three months if he or she so desires ; and it is here made the duty of the Superintendent to furnish each and every inmate of every insane asylum in this State, either public or private, with suitable material for writing, inclosing, sealing, stamping, and mailing letters, sufficient at least for the writing of one letter a week, provided they request the same, unless they are otherwise furnished with such material ; and all such letters shall be dropped by the writer thereof, accompanied by an attendant when necessary, into a post-office box of the State at the insane asylum and kept in some place easy of access to all patients. * * * * *

STATUTES OF MAINE, 1883.

SECTION 1.—*Government of the Asylum.*

The government of the Maine Insane Hospital is vested in a committee of six Trustees, one of whom shall be a woman. * * * * *

SEC. 4.—*The Trustees may Examine and Discharge Patients.*

There shall be a thorough examination of the hospital monthly by two of the Trustees, quarterly by three, and annually by a majority of the full Board ; and at any other time when they deem it necessary or the Superintendent requests it. At each visit a written account of the state of the institution shall be drawn up by the visitors, recorded, and presented at the annual meeting of the Trustees, at which meeting they, with the Superintendent, shall make a particular examination of the condition of each patient, and discharge any one so far restored that his comfort and safety and that of the public no longer require his confinement. * * * * *

SEC. 7.—*Duties and Powers of the Superintendent.*

The Superintendent shall be the physician, reside constantly at the hospital, have general superintendence of the hospital and grounds, receive all patients legally sent to the hospital, unless the number exceeds its accommodation, and have charge of them, and control of all persons therein, subject to the regulations of the Board of Trustees ; and annually on the last day of November report to the Trustees the condition and prospects of the institution, with such remarks and suggestions relative to its management and the general subject of interest as he thinks will promote the cause of science and humanity.

SEC. 29.—*Rules Should be Kept Posted.*

The Superintendent shall keep posted, in conspicuous places about said hospital, printed cards containing the rules prescribed for the government of the attendants in charge of patients.

SEC. 34.—*Certificate of Physician.*

In the case of preliminary proceedings for the commitment of an insane person to the hospital, the evidence and certificate of at least two respectable

physicians, based upon due inquiry and personal examination of the person to whom insanity is imputed, shall be required, to establish the fact of insanity, and a certified copy of the physician's certificate shall accompany the person to be committed.

SEC. 36.—*Postal Rights of the Inmates.*

The names of the Committee of Examiners and the post-office address of each shall be kept posted in every ward of the hospital, and every inmate shall be allowed to write when and whatever he pleases to them or either of them, unless otherwise ordered by a majority of the committee in writing, which order shall continue in force until countermanded in writing by said committee. For this purpose every patient not otherwise ordered as aforesaid shall be furnished by the Superintendent, on request, with suitable materials for writing, enclosing, and sealing letters. The Superintendent shall provide, at the expense of the State, securely locked letter boxes, easily accessible to all inmates, to be placed in the hospital, into which such letters can be dropped by the writer. No officer, attendant, or employee of the hospital shall have the means of reaching the contents of these boxes, but the letters in them shall be collected weekly by some member of the committee, or by such person as the committee authorizes for the purpose, who shall prepay such only as are addressed to some of the committee, and deposit them in the post-office without delay.

LAWS OF MARYLAND, 1888.

SECTION 1.—When any person is alleged to be a lunatic or insane, the Circuit Court of the county in which such person may reside, or a Criminal Court of Baltimore (if such person reside in the city of Baltimore), shall cause a jury of twelve good and lawful men to be impaneled forthwith, and shall charge the said jury to inquire whether such person is insane or lunatic; and if found so it shall be the duty of the court to cause such person to be sent to the almshouse of the county, or to a hospital, or to some other place better situated in the judgment of the court for his condition, there to be confined at the expense of the county or State until he shall recover and be discharged in due course of law. * * * * *

SEC. 26.—The Superintendent, or other officer or keeper of any institution, public, corporate, or private, or almshouse, where the insane may be kept, shall be required to keep a record of all patients in such form as the Commissioners shall direct; also a record in which shall be entered the incidents and accidents that may occur; also the number and kinds of restraints used, with details of them, to be reported to the Commissioners.

SEC. 30.—The Board of Managers, or Superintendent of any institution, public, corporate, or private, or almshouse, which may be duly authorized to hold in custody any insane person in accordance with the law, may appoint

one or more attendants or other employees of such places, as policeman or policemen, whose duty it shall be, under the orders of said Superintendent, or manager, or keeper, to arrest and return to such asylum, or other institution for the treatment of the insane, or insane persons who may escape therefrom.

SEC. 31.—No person shall be put or confined as a patient in any institution, public, corporate, or private, or almshouse, or other house for the care and custody of the insane or idiotic, except upon the rendering of a certificate of two qualified physicians, made within one week after the examination by them of said alleged lunatic, and setting forth the insanity or idiocy of such person, and the reason for such opinion. * * * * *

SEC. 33.—The Superintendent or other officer of any asylum or other institution where the insane are kept in custody or received for treatment, whether public, corporate, or private, or almshouse, shall within ten days after the reception of such patient or person make, or cause to be made, a description of such case in a book kept exclusively for the purpose; they shall also make entries from time to time of the mental condition of such patient or person so confined.

SEC. 35.—Every person confined in such place as hereinbefore mentioned, shall be furnished at all times with paper, envelopes, stamps, pen and ink, or pencil; shall at all times have access for correspondence with the lunacy commission, and some one other person whom such lunatic may designate every month, under seal, which communication shall be forwarded by the officer, Superintendent, or keeper, who may be in charge of such person or place. * * *

ACTS OF MASSACHUSETTS, 1882.

CHAPTER 87.—SECTION 11.—*Judges may commit Insane Persons to the State Hospital.*

A Judge of the Supreme Judicial Court or Superior Court of any county, or a Judge of a Probate Court, or of a Police or District or Municipal Court within this county, may commit to either of the State Lunatic Asylums any insane person, when residing or being in said county, who in his opinion is a proper subject for its treatment or custody.

SEC. 12.—*No Person to be Committed to any Hospital Without Order of the Judge.*

Except when otherwise specially provided, no person shall be committed to the lunatic hospital or other receptacle for the insane, public or private, without the order or certificate therefor signed by one of the Judges named in the preceding section, said person residing or being within the county as herein provided. Such order or certificate shall state that the Judge finds the person committed is insane, and is a fit person for the treatment of the insane

asylum. The said Judge shall see and examine the person alleged to be insane, or state in his final order why he did not deem it necessary or advisable to do so. * * * * *

SEC. 13.—*Certificate of Two Physicians.*

No person shall be committed unless, in addition to the formal testimony, there has been filed with the Judge a certificate signed by two physicians, each one of whom is a graduate of some legally organized medical college, and has practiced three years in the State, and neither of whom is connected with any hospital or other establishment for treatment of the insane. Each must have personally examined the person alleged to be insane within five days of signing the certificate, and each shall certify that in his opinion said person is insane and a proper subject for treatment in the insane hospital, and shall specify the facts on which his opinion is formed. A copy of the certificate, attested by the Judge, shall be delivered by the officer or other person making the commitment, to the Superintendent of the hospital, or other place of commitment, and shall be filed and kept with the order.

SEC. 15.—*Statement Regarding Insane Person to be Filed with the Judge ; Duty of the Superintendent.*

Upon every application for the commitment or admission of any insane person to a hospital or asylum for the insane, there shall be filed with the application, within ten days after the commitment or admission, a statement in respect to such person, showing as near as can be ascertained his age, birthplace, exact condition, place, and occupation ; the supposed cause and duration and character of his condition, whether mild, violent, dangerous, homicidal, suicidal, paralytic, apoplectic, the present symptoms of insanity in the person or his family, his habits in regard to temperance ; whether he has been in a lunatic asylum or hospital, and if so, what one, when, how long ; and if the patient is a woman, whether she has borne children, and if so, what time had elapsed since the birth of the youngest ; the names and addresses of his father, mother, children, brother, sister, or others next of kin, not exceeding ten in number and over eighteen years of age, when the names and addresses of such relatives are known by the person or persons making such application, together with any fact showing whether he has or has not a settlement, and if he has a settlement, in what place ; and if the applicant is unable to state any of the above particulars, he shall state his inability to do so. The statement, or a copy thereof, shall be transmitted to the Superintendent of the hospital or asylum, to be filed with the order or application for admission. The Superintendent shall, within two days of the time of admission or commitment of the insane person, send, or cause to be sent, notice of said commitment, in writing, by mail, postage prepaid, to each of said relatives, and to any other two persons whom the person committed shall designate.

SEC. 26.—*Persons Violently Insane may be Received at the Hospital Without Warrant of Commitment.*

The Superintendent or keeper of a hospital, including the McLean Asylum at Somerville, may receive into his custody, and detain in such hospital or asylum for a period not exceeding five days, without an order of the Judge, as provided in Section 2, any person as insane, whose case is duly certified to be one of violent and dangerous insanity and emergency by two physicians qualified as in Section 13. In addition to such certificates an application signed by one of the Selectmen of the town, or by one of the Aldermen of the city in which such insane person resides or is found, shall be left with the Superintendent of the hospital or asylum in which the insane person is received, and such application shall contain the statement in respect to such insane person which is required by Section 15, and a further statement that the case is one of violent and dangerous insanity.

SEC. 29.—*Notice to be Given to the Board of Health, Lunacy, and Charity.*

When the patient is received into such hospital upon his own application or under the provisions of Section 26, the Superintendent thereof shall give immediate notice of such reception to the State Board of Health, Lunacy, and Charity, stating all the particulars, including the legal settlement of the person so received, if known; the State Board shall immediately cause such cases to be investigated and a record be made of all the facts pertaining thereto.

SEC. 35.—*Certain Privileges of Patients in Hospitals.*

An attorney regularly retained by or on behalf of any person committed to a lunatic hospital, asylum, or receptacle for the insane, shall be admitted to visit such client at all reasonable times, if in the opinion of the superintending officers of such hospital, asylum, or receptacle such visit would not be injurious to such person, or if a Judge of the Supreme Judicial Court, Superior Court, or Probate Court in any county first orders, in writing, that such visits be allowed.

SEC. 36.—*Postal Privileges of Patients.*

The patients in the lunatic hospital, asylum, or receptacle for the insane, shall be allowed to write monthly to the Superintendent or to the State Board, and they shall be furnished by the Superintendent with all materials necessary for such correspondence; and a letter-box shall be placed in each ward in which each writer may deposit his letters, and the box shall be opened and the letters distributed monthly by the said Board.

ACTS OF MASSACHUSETTS, 1883.

SECTION 1.—*Discharge of Inmates from Lunatic Asylum by Superintendent.*

The Board of Trustees of the State Lunatic Asylums, or of the Massachu-

setts General Hospital, may by vote confer on the Superintendent of the hospital or asylum under their control, authority to discharge therefrom any inmate thereof committed thereto as an insane person, provided due written notice of intention so to discharge shall be sent by said Superintendent to the person or persons who originally sent the petition for the commitment of such inmate.

SEC. 2.—Temporary absence from the Hospital by the Permission of the Superintendent.

Said Superintendent may also, when he shall deem it advisable, permit any such inmate to leave the hospital or asylum temporarily, in charge of his guardian, relatives, or friends, for the period not exceeding sixty days, and receive him when returned by such guardian, relatives, or friends within such period without further order.

PUBLIC ACTS OF MICHIGAN, 1885.

*SECTION 1.— * * * The asylums for the insane of the State of Michigan shall be under the control of separate Boards of Trustees.*

*SEC. 5.—Appointment of the Superintendent * * * Steward, and Assistant Medical Superintendent. * * **

The Board of Trustees shall severally appoint a Medical Superintendent, who shall be a well-educated physician, experienced in the treatment of the insane; and a Treasurer, not one of their number, who shall give bonds for the performance of his trust, in such sum and with such sureties as the Director-General of the State shall approve. They shall also appoint, upon the nomination of the Medical Superintendent, a Steward, and a Chaplain; and also in a like manner an Assistant Medical Superintendent, and necessary assistant physicians. All medical officers shall reside at the asylum. * *

SEC. 12.—Powers and Duties of the Medical Superintendent.

The Medical Superintendent shall be the chief executive officer of the asylum. He shall have the general superintendence of the buildings, grounds, and farm, together with the furniture, fixtures, and stock; and the direction and control of all persons therein, subject to the by-laws and regulations established by the Trustees. He shall daily ascertain the condition of all patients, and prescribe for their treatment in the manner directed in the by-laws. He shall have the nomination of his co-resident officers, with power to assign them to their respective duties, subject to the by-laws; also to appoint, with the approval of the Trustees, such and so many other assistants and attendants as he may think necessary and proper for the economical and efficient performance of the business of the asylum, and to prescribe their several duties and places, and fix, with the approval of the Trustees,

GENERAL ACTS, MINNESOTA, 1887.

CHAPTER 146.—SECTION 1.—*Postal Rights of Insane Persons.*

That henceforth each and every inmate of each and every insane asylum, both public and private, in the State of Minnesota, shall be allowed to choose one individual from the outside world, to whom he or she may write, when and whatever he or she may desire, and over these letters to the individual there shall be no censorship exercised or allowed by any of the asylum officials or employees. But their postal rights, so far as this one individual is concerned, shall be as free and unrestricted as are those of any resident or citizen of the State of Minnesota, and shall be under the protection of the same postal laws; and each and every inmate shall have the right to make a new choice of his individual party every three months, if he or she so desires to do; and all such letters shall be dropped by the writer thereof, accompanied by an attendant when necessary, into a post-office box provided by the State at the insane asylum, and kept in some place easy of access to all the patients. The attendant is required, when necessary, to see that this letter is directed to the patient's correspondent, and if it is not so directed, it must be held subject to the Superintendent's disposal, and the contents of the box shall be collected once every week by the authorized person from the Post Office Department, and by him placed into the hands of the United States mail for delivery.

SEC. 2.—*Duties of the Superintendent of the Insane Asylum.*

That it is hereby made the duty of the Superintendent to keep registered and posted in some public place at the insane asylum, a copy of the names of every individual chosen as an inmate's correspondent, and by whom chosen, and it is hereby made the duty of the Superintendent to inform each of the individuals named of the party choosing him or her, and he is to request him or her to write his or her own name on the outside of the envelope of every letter he or she writes to this individual inmate; and all these letters bearing the individual writer's name on the outside he is requested to deliver, or cause to be delivered any letter or writing to him or her directed, without opening or reading the same, or allowing it to be opened or read, unless there is reason for believing the letter contains some foreign substance which may be used for medication; in which case the letter shall be required to be opened in the presence of a competent witness, and this substance shall be delivered to the Superintendent to be used at his discretion.

SEC. 4.—*Superintendent to Provide Registers and Stationery.*

It shall be the duty of the Superintendent of each hospital or asylum for insane to furnish each assistant physician with a pocket register of correspondence, in such way as the State Department of Corrections and Charities may prescribe, and to keep on hand some envelopes, paper, and postal-cards, which shall be used for each correspondent. Such registers and stationery shall be

furnished on requisition of the assistant physicians, and shall be paid for from the current expense funds of such institution. * * * *

Whenever any letter or postal card from any correspondent chosen under this act shall be delivered to any assistant physician by the Superintendent, he shall deliver the same to the inmate to whom it is addressed, without unnecessary delay, taking the receipt of said inmate therefore.

SEC. 6.—*The Superintendent to Mail and Deliver Letters.*

* * * It shall be the duty of the Superintendent, upon receipt of such letters from the assistant physician, if he shall find that the said letter is addressed to a correspondent duly chosen under this act, to place such letter, or cause it to be placed, in the United States mail without opening or reading the same. It shall be the duty of the Superintendent to request the said correspondents to write their names on the outside of the letters sent by them to the inmates. The said Superintendent shall deliver such letters to the assistant physician to be given to the inmates to whom they are addressed, unless in the judgment of the said Superintendent the receipt of such letters would be injurious to such inmates, in which case they shall forthwith notify such correspondents that such letters are withheld, stating the reasons therefor, and recording the fact in the register of correspondence. No letter written by a correspondent to an inmate shall be opened by any Superintendent, unless he has reason to suspect that it contains such matter as ought not to be delivered to said inmate, in which case he shall record the fact that such letter has been opened, and the reasons therefor, in the register of correspondence.

SEC. 7.—*Inmates may Correspond with the Governor and the Secretary of the State Board of Corrections and Charity.*

* * * * Each and every inmate of any hospital for the insane in the State shall have the privilege of communicating in writing with the Governor and the Secretary of the State Board of Corrections and Charities, in the same manner, under the same regulations, as with the correspondents chosen under this act.

CHAPTER XIV.—SEC. 267.—*Physician to Examine Alleged Insane Person.*

Upon the filing of information the court shall make an order directed to two (2) persons, one of whom at least shall be a duly qualified physician, and such persons, in connection with the Judge of Probate, shall constitute a jury to examine the person alleged to be insane, and they shall ascertain the fact of sanity or insanity.

SEC. 274.—*When Discharged, Probate Court to be Notified.*

When any person, who has been committed to the care and custody of the Superintendent of the hospital by warrant of the Probate Court, shall be discharged from such hospital, the Superintendent shall, upon day of such dis-

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furnished on requisition of the assistant physicians, and shall be paid for from the current expense funds of such institution. * * * *

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SEC. 274.—*When Discharged, Probate Court to be Notified.*

When any person, who has been committed to the care and custody of the Superintendent of the hospital by warrant of the Probate Court, shall be discharged from such hospital, the Superintendent shall, upon day of such dis-

charge, send by mail to the Judge of Probate of the county in which such warrant was issued a certificate signed by him, stating that the person has been discharged from such hospital, and the date of such discharge, which certificate shall be filed in the Probate Court.

CODE OF MISSISSIPPI, 1880.

SECTION 665.—The Medical Superintendent shall have power to appoint and remove all subordinate officers and employees allowed by the Trustees, and he shall make, in a book kept for that purpose, at the time of reception, a minute with the date of reception, with name, age, sex, residence, office or occupation of the person, and by whom and by whose authority each insane person is brought to the asylum, and have all orders, warrants, requisitions, certificates, and other papers accompanying him or her, carefully filed, and have them copied in said book. * * * * He shall ascertain the condition of the patients, and prescribe their treatment in the manner prescribed in the said by-laws; and he shall also be required to see that all the rules and regulations for the discipline and good government of the institution are properly obeyed and enforced.

SEC. 659.—Any person, being a lunatic and resident of the State of Mississippi, shall be admitted into the asylum free of charge. * * * *

SEC. 660.—It shall be the duty of the Superintendent to admit into the asylum all persons ordered to be placed therein after an inquest of lunacy in the due order of registration, if there be a vacancy in such asylum, on the presentation of a duly certified copy of such order under the seal of Chancery Court, showing thereby admission of the patient to the asylum.

SEC. 661.—On application in behalf of any person being a lunatic and a resident of this State, for his or her admission into the asylum, the Superintendent and Board of Trustees may, if they think he or she ought to be admitted, receive him or her as a patient therein, even though no proceedings in lunacy have been instituted as hereinafter provided for.

SEC. 663.—In case the friends or relations of any lunatic shall neglect or refuse to place him or her in said asylum, and shall permit him or her to go at large, it shall be the duty of the clerk of the Chancery Court of any county in which such lunatic may reside or be found going at large, on the suggestion, in writing, of any citizen of the county, to direct the Sheriff, by writ of lunacy, to summon as soon as may be the alleged lunatic and six discreet persons of the county in which such lunatic is going at large, to make inquisition thereto on oath, and the result of such inquisition to be returned to the said court forthwith; and if the person said to be a lunatic shall be adjudged by such inquest, or a majority of them, to be insane, and one who should

be confined therein, the said clerk shall order said Sheriff to arrest said lunatic, and place him or her in said asylum if there be a vacancy, or if there be no vacancy to confine such lunatic in the county jail until room can be had in the lunatic asylum. * * * * *

REVISED STATUTES OF MISSOURI, 1889.

SECTION 471.—*Superintendent's Duties.*

The Superintendent shall be a physician of knowledge, skill, and ability in his profession, and have experience in the management and treatment of insane; he shall not, while such Superintendent, engage in the practice of his profession, but shall, to the exclusion of all other business, devote himself to the supervision and care of the asylum and its inmates. Before entering on the duties of his office he shall take an oath or affirmation that he will diligently, faithfully, and impartially discharge all the duties required of him by the law.

SEC. 473.—*Patients, How Admitted and Discharged.*

Persons afflicted with any form of insanity may be admitted into the asylum when the Superintendent deems it probable that their condition can be improved by the care and treatment of the institution; and any person may be discharged by the Superintendent whenever he may believe that the condition of such person cannot be improved by a longer stay in the asylum.

SEC. 478.—*Pay Patients, How Admitted.*

Pay patients, or those not sent to the asylum by order of the court, may be admitted on such terms as shall be by this chapter, and the by-laws of the asylum, prescribed and regulated.

SEC. 479.—*Terms of Admission.*

Preparatory to the admission of such a patient the Superintendent shall be furnished with a request: * * * stating his age and place of nativity if known, his Christian and surname, place of residence, occupation, and degree of relationship, or any circumstances of connection between him and the person requesting his admission; and a certificate * * * dated within two months, under oath, signed by two physicians, of the fact of his being insane. Such person signing such request or certificate shall annex to his name his profession or occupation, and the township, county, and State of residence, unless these appear on the face of the document. Before any probate patient shall be received into the asylum, there shall be produced to the Superintendent a receipt from the Treasurer of the asylum, acknowledging the payment to him of at least thirty days' charge in advance, and sufficient bond to the said Treasurer conditioned with the obligees to secure the payment of the charges incurred in behalf, on account, of said patient; * * *

No board constituting thirty days' payment shall be refunded if a patient making such payment shall be taken away within the period uncured, and against the consent of the Superintendent.

REVISED STATUTES, 1889.

CHAPTER 86. SECTION 5513.—*On Information, Probate Court to Inquire as to Sanity.*

If any information in writing be given to the Probate Court, that any person in its county is an idiot, lunatic, or person of unsound mind, and incapable of managing his affairs, and pray that an inquiry thereinto be had, the court, if satisfied that there is good cause for the exercise of its jurisdiction, shall cause the facts to be inquired into by a jury.

SEC. 5550.—*To be Discharged, When.*

If it be found that such person has been restored to his right mind, he shall be discharged from the care and custody, and the guardian shall immediately settle his accounts and restore to his person the things remaining in his hands belonging or pertaining to him; and if it be found that such person has not been restored to his right mind, the person at whose instance the inquiry was had, may, in the discretion of the court, be required to pay the cost of proceeding.

STATUTES OF MONTANA, 1887.

SECTION 1215.—*Examination of Person Alleged to be Insane.*

From and after the passage of this article it shall be the duty of the Probate Judge, or in his absence or incapability to act, the chairman of the Board of County Commissioners of the several counties of this territory, upon the application of any person under oath, setting forth that any person by reason of insanity is unsafe to be at large or is suffering under mental derangement, to cause said person to be brought before him, at such time and place as he may direct, and the said Judge or Commissioner shall also cause to appear, at the same time and place, a jury of three persons of his county, one of whom shall be a licensed practicing physician, who shall proceed to examine the person alleged to be insane, and if such jury after careful examination shall certify upon oath that the charged is a lunatic, and the said Judge or Commissioner is satisfied that such person by reason of insanity is unsafe to be at large, or is incompetent to provide for his or her own proper care and support, and has no property available for that purpose, and has no kindred in the degree of husband or wife, father or mother, children, or brother or sister, living within the territory, of sufficient means and ability to provide for such care and maintenance, or if he or she having kindred within the territory and such kindred fail or refuse to properly care for and maintain such insane person, such Judge or County Commissioner

shall make out a duplicate warrant reciting such facts, and place them in the hands of the Sheriff of said county, who shall immediately in compliance therewith have the person or persons therein named apprehended, and deliver him or her or them to the director aforesaid, at the place designated in the notification. * * * * *

SEC. 1227.—*Inmates may be Discharged upon Report of Physician.*

The Governor shall direct and have discharged from the insane asylum any of the inmates thereof at any time when, from the written report to him by the physician in charge of said asylum, or either of them, or from any physician who shall be appointed to visit and examine said institution, he believes such discharge should be granted ; provided that the report upon which he may act shall be filed and kept in his hands.

SEC. 1230.—*Inmates of an Asylum may Choose Confidential Correspondent.*

* * * Each and every inmate of each and every asylum, both public and private, shall be allowed to choose one individual from the outside world, to whom he or she may write when and whatever he or she desires ; and over these letters to this individual there shall be no censorship exercised or allowed by any one of the asylum officials or employees ; but their post-office rights so far as this one individual is concerned, shall be as free and unrestricted as those of any other resident or citizen of the Territory of Montana, and shall be under the protection of the same postal laws ; and each and every inmate shall have the right to make a new choice of this individual party every three months if he or she desires to do so ; and it is here made the duty of the Superintendent to furnish each and every inmate of every insane asylum in this territory, either public or private, with suitable material for writing, enclosing, sealing, stamping, and mailing letters, sufficient at least for the writing of one letter a week, provided they request the same, unless they are otherwise furnished with such materials, and all such letters shall be dropped by the writers thereof, accompanied by an attendant, into the post-office box provided by the Department at the insane asylum, and kept in some place easy of access to all the patients ; the attendant is required in all cases to see that this letter is directed to the patient's correspondent, and if it is not so directed, it must be held subject to the Superintendent's disposal, and the contents of this box shall be collected once every week by an authorized person from the Post-office Department, and by him placed in the hands of the United States mail for delivery.

SEC. 1231.—*Lists of Correspondents to be Registered and Posted.*

That it is hereby made the duty of the Superintendent to keep registered and posted in some public place at the insane asylum a true copy of the names of every individual chosen as the inmate's correspondent, and by whom chosen ; and it is hereby made the duty of the Superintendent to inform each of the in-

dividuals of the name of the party choosing him or her, and to request him or her to write his or her name on the outside of the envelope of every letter he or she writes to this individual inmate; and all these letters bearing individual writers' names on the outside, he is requested to deliver, or cause to be delivered any letter or writing to him or her directed, without opening or reading the same, or allowing it to be opened or read, unless there is reason for suspecting that the letter contains some foreign substance which might be used for medication, in which case the letter shall be required to be opened in the presence of competent witnesses, and this substance shall be delivered to the Superintendent to be used at his discretion.

NEBRASKA COMPILED STATUTES, 1887.

SECTION 2.—*Post Office Privileges of Inmates.*

* * * Henceforth there shall be no censorship exercised over the correspondence of the inmates of the hospital for the insane in this State, but their post-office rights shall be as free and unrestricted as are those of any resident or citizen of this State, and be under the protection of the same postal laws, and every inmate shall be allowed to write when and whatever he or she desires to any person he or she may choose. And it is hereby made the duty of the Superintendent to furnish each and every inmate of each and every insane asylum in this State with suitable material, at the expense of the State, for writing, enclosing, sealing, stamping, and mailing letters, sufficient for writing at least one letter a week, provided they request the same, unless they are otherwise furnished with such material. * * * * *

SEC. 11.—*Duties and Power of the Superintendent.*

The Superintendent of said institution shall be a physician of acknowledged skill and ability in his profession, and be a graduate of a regular medical college. He shall be the chief executive officer of the hospital, and shall hold his office for the term of six years, unless sooner removed by the Governor, or for malfeasance in office, or other good and sufficient cause. He or the assistant physician must be in daily attendance at the hospital, and in no instance must they both be absent at the same time. Before entering upon the duties of his office, he shall take and prescribe an oath for the faithful and diligent discharge of the duties required by law. He shall have the entire control of the medical, moral, and dietetic treatment of patients, and shall see that the several officers of the institution faithfully and diligently discharge their respective duties. He shall employ attendants, servants, nurses, and such persons as he may deem necessary for the efficient and economical administration and government of the asylum.

SEC. 21.—*Application for Admission to the Hospital.*

Application for admission to the hospital must be made in writing in the

nature of information validated by affidavit; such information must allege that the person in whose behalf the application is made is believed by the informant to be insane and a fit subject for custody and treatment in the hospital; that such person is found in the county and has an alleged settlement therein, if such is known to be the fact, and if such settlement is not in the county, where it is, if known, or where it is believed to be, if the informant is advised on the subject.

SEC. 12.—*Investigation of the Commissioners.*

On the filing of any information as above provided, the commissioners shall at once take steps to investigate the grounds of the information. For this purpose they may require that the person for whom such admission is sought be brought before them and that the examination be had in his or her presence.

* * * * The commissioners, whether they decide to dispense with the presence of such person or not, shall appoint some legally practicing physician of the county to visit or see such person, and make a personal examination touching the truthfulness of the allegation in the information, and adjudge the actual condition of such person, and forthwith report to them thereon; and said physician may or may not be of their own number; and the physician so appointed and acting shall certify in his own hand that he has, in pursuance of his appointment, made a careful personal examination as required; and that on such examination he finds the person in question insane, if such is the fact; and if otherwise, not insane; and in connection with his examination the said physician shall endeavor to obtain from the relatives of the person in question, or from others who know the facts, correct answers so far as made in the interrogatories hereinafter required to be propounded in such cases, which interrogations and answers shall be attached to the certificate.

STATUTES OF NEVADA, 1889.

CHAPTER 39.—SECTION 1.—Whenever by reason of absence of the District Judge of the county an insane person cannot be brought before him for examination, he may be taken before the county clerk of such county, and thereupon said county clerk shall be vested with the power to hold such examination, and discharge such person or commit him to the insane asylum in the same manner as may be done by the District Judge.

GENERAL STATUTES, 1885.

SECTION 1457.—*District Judge to Examine Insane Person; Physician to Attend.*

The District Judge of any judicial district in this State shall, upon application under oath, setting forth that a person by reason of insanity is dangerous to be at large, cause any person to be brought before him, and he shall summon

to appear, at the same time and place, two or more witnesses having had frequent intercourse with the accused during the time of alleged insanity, who shall certify under oath as to conversation, manners, and general conduct upon which said charge of insanity is based; and he shall also cause to appear before him at the same time and place two graduates in medicine, before whom the District Judge shall summon a jury, and if after careful hearing of the case and a personal examination of the alleged insane person the said physicians shall certify on oath that the case is of recent or curable character, or that the said insane person is of a homicidal, suicidal, or incendiary disposition, or if from any other violent symptoms the said insane person would be dangerous to his own or her own life, or to the lives and property of the community in which he or she may live; and if said physicians shall also certify to the name, age, nativity, residence, occupation, length of time in this State, apparent cause and class of insanity, duration of disease and present condition as nearly as can be ascertained by inquiry and examination; and if the District Judge shall be satisfied that the facts in the examination establish the existence of insanity in the person of the accused, of a recent or curable nature, or of a homicidal, suicidal, or incendiary character, or from the violent symptoms the said insane person would be dangerous to his or her own life, or to the lives and property of others, to be at large, he shall direct the Sheriff or some suitable person to convey to the Capitol of the State and place such insane person in charge of the Secretary of the State, and shall transmit duplicate copies of complaint and commitment and physicians' certificates, which shall also be in form as furnished to the Judge, to the Secretary of the State.

NEW HAMPSHIRE LAWS, 1889.

CHAPTER 18.—SECTION 6.—*Only Pauper Insane in County Asylums; Reports of County Superintendent.*

No person other than a pauper shall be admitted into any county asylum, and the Superintendent of every asylum or other place in this State where insane persons are confined, shall, within three days after the commitment of any person, notify the board of such confinement upon a blank furnished for that purpose; and the said Superintendent shall at all times furnish such information regarding the insane in his charge as the State Board may request.

1878.—CHAPTER 10.—SECTION 12.—*Persons Dangerous, to be Committed to the Asylum.*

If any person is in such condition as to render it dangerous that he should be at large, the Judge of Probate, upon petition of any person and such notice to the Selectman of the town in which such insane person is, or to his guardian, or to any other person as he may order—which petition may be filed,

notice issued, and a hearing had in vacation or otherwise—may commit such insane person to the asylum.

SEC. 18.—*Certificate of two Physicians Required to Commit.*

No person shall be committed to the Asylum for the Insane, except by order of court or the Judge of Probate, without a certificate of two respectable physicians that such person is insane, given after a personal examination made within one week of committal; and such certificate shall be accompanied by a certificate of the Judge of the Supreme Court, or of the Court of Probate, or Mayor, or Chairman, or Selectman, testifying to the truthfulness of the signatures of the signers.

SEC. 25.—*Superintendent may Furnish Stationary, Paper, and Transmit Letters to Trustees.*

It shall be the duty of the Superintendent to furnish stationary to any patient who may desire it, and transmit any letter such patient may address to the Board of Trustees to such member as said board shall have designated to receive such correspondence, and all such letters shall be promptly transmitted without interception.

REVISED STATUTES OF NEW YORK, 1889.

CHAPTER 446.—ARTICLE I.—SECTION 1.—*Commitment of the Insane.*

No person shall be committed to or confined as a patient in any insane asylum, public or private, or any institution, home, or retreat for the care and treatment of insane, except upon the certificate of two physicians, under oath, setting forth the insanity of such person. No person shall be held in confinement in any such asylum for more than five days, unless within that time such certificate be approved by a Judge or Justice of a court of record of the county or district in which the alleged lunatic resides; and such Judge or Justice may institute inquiry and make proofs as to the fact of alleged lunacy before approving or disapproving such certificate; and such Judge or Justice may in his discretion call a jury in each case to determine the question of lunacy.

SEC. 2.—It shall not be lawful for any physician to certify to the insanity of any person for the purpose of securing their commitment, unless the physician be of reputable character and a graduate of some incorporated medical college, a permanent resident of the State, and shall have been in actual practice of his profession for at least three years. And such qualification shall be certified to by a Judge of any court of record. No certificate of insanity shall be made except after the personal examination of the parties alleged to be insane, and according to the forms prescribed by the State Commissioner of Lunacy, and every such certificate shall bear a date not more than ten days prior to such commitment.

SEC. 3.—It shall not be lawful for any physician to certify to the insanity of any person for the purpose of committing him to an asylum of which the said physician is either superintendent, proprietor, or officer, or a regular professional attendant therein.

SEC. 4.—Every Superintendent of the State Asylum, or public or private asylum, institution, home, or retreat for the care and treatment of insane, shall, within three days after the reception of any patient, make, or cause to be made, a description of such case entered, in a book exclusively set apart for that purpose, and shall also make entries from time to time mentioning state, bodily condition, and medical treatment of such patient, together with the forms of restraint employed during the time such patient remains under his care; and in the event of discharge or death of such patient the Superintendent aforesaid shall state in his case-book the circumstances pertaining thereto.

SEC. 10.—Any overseer of the poor, constable, keeper of jail, or other persons who shall confine any lunatic in any seminary, or any other places than such as are herein certified, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be liable to a fine not exceeding \$250, or imprisonment not exceeding one year, or both, at the discretion of the court before which the conviction shall be had.

SEC. 33.—When any person is confined under the indictments of arson, murder, or attempt to murder, or highway robbery, or who has been acquitted thereof on the ground of insanity, and has been committed to some State lunatic hospital * * * * shall be restored to his right mind, it shall be the duty of the Superintendent of such asylum to give notice thereof to the State Commissioner of Lunacy, who shall thereupon inquire into the truth of the fact, and if the same shall be proved to his satisfaction, he shall issue certificate, dated under his official hand and seal, to a Justice of the Supreme Court of the district in which such asylum is situated, who shall thereupon and upon such other facts as may be proven before him determine whether it is safe, legal, and right that such party in confinement, as aforesaid, shall be discharged.

SEC. 24.—*Discharge of Patients.*

The managers, upon the Superintendent's certificate of complete recovery, may discharge any patient, except when under a criminal charge, or liable to be remanded to prison, and they may discharge any patient admitted as "dangerous", or any patient sent to the asylum by the Superintendent or Overseers of the Poor, or by the (first) Judge of the county, upon the certificate of the Superintendent that he or she is harmless, and will probably continue so, and not likely to be improved by further treatment in the asylum, or when the asylum is full, upon a like certificate that he or she is manifestly incurable and can

probably be rendered comfortable at the poor-house, so that the preference may be given in the admission of patients, to recent cases, or cases of insanity of not over one year's duration. They may discharge and deliver the patient, except when under criminal charge, as aforesaid, to his relatives or friends who will undertake, with good and approved sureties, for his peaceable behavior, safe custody, and comfortable maintenance without further public charge. And such sureties shall be approved by the county Judge of the county from which said patient was sent. * * * Upon the presentation of a certified copy thereof the managers may discharge such patient.

LAWS OF NEW JERSEY, 1889.

CHAPTER 168.—*Superintendent or Warden to send a List of Patients Chargeable to the County.*

* * * It shall be the duty of the Superintendent or warden of the respective State asylums for the insane in this State, at which patients are supported at the expense of any county of this State, to make out under oath and send to the clerk of the Board of Chosen Freeholders of each and every county supporting patients at said asylums, at least three days before the meeting of the said Board of Freeholders, at which a quarterly bill of said asylum shall be presented, a regular and quarterly statement giving the names of all patients at said asylum at the expense of the county for which said statement is made, who have been at said asylum during the last preceding quarter, which statement shall also contain the dates of admission of the respective patients, the township from which they came, the days of discharge of any who have been discharged, the date of death of any who have died, and the dates between which they have been away on a visit or otherwise during the quarter.

TRENTON ASYLUM, 1886.

SECTION I.—*Admission of Patients.*

* * * No person shall be admitted into the asylum as a patient except upon the order of some court or Judge authorized to send patients, without lodging with the Superintendent—first, a request under the hand of the person by whose direction he is sent, stating his age and place of nativity, if known, his Christian and surname, place of residence, occupation, and degree of relationship, and other circumstances of connection between him and the person requesting his admission; and, second, a certificate dated within a month, under oath, signed by two respectable physicians, of the fact of his being insane; each person signing such request or certificate shall annex to his name his profession or occupation, and the township and county and State of his residence, unless these facts appear on the face of the documents.

SEC. 7.—*Duties and Powers of Physician.*

The Superintendent shall be the chief executive officer of the asylum; he shall have the general superintendence of all the buildings, grounds, and farm, with their furniture, fixtures, stock, and the direction and control of all persons therein, subject to the law and regulations established by the managers; he shall daily ascertain the condition of the patients, and prescribe their treatment in the manner prescribed in the By-laws; he shall appoint, with the approval of the managers, so many assistants and attendants as he may think proper and necessary for the economical and efficient performance of the business of the asylum, and prescribe their several duties and places, and fix, with the managers' approval, their compensation, and discharge any of them at his sole discretion; but in every case of discharge he shall forthwith record the same with the reasons under the proper heading in one of the books of the asylum; he shall also have the power to suspend until the next meeting (monthly) of the managers, for good and sufficient cause, any resident officer; but in such case he shall give written notice to the effect, with its cause and circumstances, to one of the managers, whose duty thereupon shall be to call a special meeting of the Board to provide for the exigency; he shall also from time to time give such orders and instructions as he may judge best calculated to insure good conduct, fidelity, and economy in every department of labor and expense; and he is authorized and enjoined to maintain salutary discipline among all who are employed by the institution, and to enforce strict compliance with such instructions and uniform obedience to all rules and regulations of the asylum; he shall cause a full and fair account and record of all his doings, and of the entire business and operations of the institution, to be kept regularly from day to day in a book provided for that purpose, in the manner and to the extent prescribed in the By-laws; and he shall see that all such accounts and records are fully made up to the last day of December in the year, and that the principal facts and results, with reports thereon, be presented to the managers immediately thereafter. The assistant physician shall perform his duties and be subject to the responsibilities of the Superintendent in his sickness or absence.

SEC. 36.—*Discharge of Patients.*

* * The managers, upon the Superintendent's certificate of complete recovery, may discharge any patient except those under criminal charge or liable to be removed to prison; and they may send back to the poor-house or township of the county from whence he came, any person admitted as dangerous, who has been two years in the asylum, upon the Superintendent's certificate that he is harmless and will probably continue so, and not likely to be improved by further treatment in the asylum; or when the asylum is full, upon the certificate that he is manifestly incurable and can probably be

rendered comfortable at the poor-house; they may also discharge and deliver any patient, except one under criminal charge as aforesaid, to his relatives or friends, who will undertake, with good and approved securities, for his peaceable behavior, safe custody, and comfortable maintenance without further public charge.

SEC. 21.—*Proceedings when Lunatics are Dangerous, if at large.*

That it shall be and may be lawful for any two Justices of the Peace of the county in which any lunatic, furious, mad, or dangerous, is permitted to go at large, shall be found, by warrant under their hands and seals, to direct the Overseers or Overseer of the Poor of the city or township in which such lunatic or mad person may be found, to cause such person to be apprehended and kept safely locked up, and chained, if necessary, in some secure place within such city or township or within the county within which said city or township shall be situated, as such Justices shall by their warrant appoint, in case the legal settlement shall be in the city or township in the said county.

NEW MEXICO, 1884.

SECTION 1324.—*Judge may Issue a Commission, when.*

It shall be lawful for any District Judge in this Territory to issue a commission, in term or vacation time, in the nature of a writ de lunatico inquirendo, to inquire into the lunacy or habitual drunkenness of any person within this Territory, or having real or personal estate therein. Such commission shall issue in the county wherein he last had his residence, or in which his property is situated, and shall be executed therein.

SEC. 1327.—*Order made to Court.*

It shall be the duty of the court at the time of granting any application as aforesaid, to make such order respecting notice of the execution of the commission to the party with respect to whom such commission shall be issued, or to some of his near relations or friends who are not concerned in the application, as the said court shall deem advisable.

SEC. 1328.—*Jury of Inquest.*

It shall be lawful for the commissioner or commissioners to direct an order to the Sheriff, requiring him to summon not less than nor more than twelve persons upon the inquest, as the circumstances to them may seem to require.

SEC. 1329.—*Inquisition; when held.*

If the court shall be of the opinion that the person with respect to whom proceedings are instituted has no estate, or not sufficient to justify the expense of a commission, and the proceedings under it, the Judge thereof, in person, shall hold said commission during the term of the court, and shall direct an inquest to be empannelled from the jurors attending said court, and which

proceeding shall have like force and effect as an inquisition held by commissioners as aforesaid.

SEC. 1354.—*Jailor to give Notice.*

If any person arrested or imprisoned as aforesaid, in any civil action, shall appear to be of unsound mind, it shall be the duty of the jailor or keeper of the prison forthwith to give notice of the fact to two Justices of the Peace, who shall within five days attend at the prison, and, upon the oath or affirmation of such persons as they shall think fit to examine, proceed to inquire into the state of mind of such prisoner, and if they shall find him to be a lunatic as was alleged, they shall forthwith make a record of the fact, and certify the same to the Clerk of the District Court.

CODE OF NORTH CAROLINA, 1883.

SECTION 2249.—*Superintendent ; Qualifications.*

* * * He shall be a skillful physician, educated to his profession, of good moral character, of prompt business habits, and of kindly disposition. He shall hold his office for six years from and after his appointment, unless sooner removed * * * for infidelity to his trust, gross immorality, or incompetency to discharge the duties of his office, fulfilled and declared, and the proof thereof recorded in the books. * * * *

SEC. 2250.—*Assistant Physician.*

Each Board of Directors shall appoint one or more assistant physicians, and with the advice and consent of the Superintendent, prescribe his duties. Every assistant physician appointed shall hold his place for two years from and after the appointment, unless sooner removed by said Board for good cause, which shall be specified and recorded in their proceedings.

SEC. 2253.—*Superintendent to Control Officers.*

Such Superintendent shall exercise exclusive direction and control over all subordinate officers and employees engaged in the service and labors of his asylum, and he may discharge such as have been employed by himself or his predecessor, and shall report to the Board of Directors of the asylum the misconduct of all other subordinates.

SEC. 2256.—*Proceedings to Obtain Admission to the Asylum.*

For admission into the asylum for the insane the following proceedings shall be had : Some respectable citizen residing in the county of the alleged insane person shall make before, and file with, the Justice of the Peace of the county, an affidavit. * * * Upon the bringing of the alleged insane person before the Justice of the Peace, or upon the return of the precept with the body of the insane person, the Justice shall cause to be associated with him one or more Justices of the said county, who together shall proceed to

examine into the condition of the mind of the alleged insane person, and shall take the testimony of at least one respectable physician, and such others as they may think proper. If any two of the Justices of the Peace shall be satisfied that the person is insane, and some friend, as he may do, will not become bound with good security to restrain him from committing injuries, support, and take care of him until the cause for confinement shall cease, such Justices shall direct such insane person to be removed to the proper asylum as a patient, and to that end they shall direct a warrant to the Sheriff or constable, and at the same time shall transmit to the proper Board of Directors, on examination of the witnesses, a statement of the facts as the said Justices shall deem pertinent to the subject matter. * * * * *

SEC. 2259.—*Action of the Superintendent in Doubtful Cases.*

Whenever an insane person shall be conveyed to any asylum, and the Superintendent is in doubt as to the propriety of his admission, he may convene any three of the Board of Directors of his asylum, who shall constitute a Board for the purpose of examining and deciding that such person is a proper subject for admission, and if a majority of such Board shall decide so, such person shall be received into that asylum; but that a like Board may at any time hereafter deliver such insane person to any friend who may become bound with good security to maintain and take care of him in the same manner as he might have become bound under the surety of the Justice of the Peace.

SEC. 2260.—*Discharge of the Cured. Removal of the Incurables.*

Any three of the Board of Directors of any asylum, upon the certificate of the Superintendent * * * * * shall be a Board to discharge or remove from their asylum any person admitted as insane when such person has become or is found to be of sane mind; or when such person is incurable and in the opinion of the Superintendent his being at large will not be injurious to himself or dangerous to the community; or said Board may permit such person to go to the county of his settlement on probation, when in the opinion of the said Superintendent it will not be injurious to himself or dangerous to the community; and said Board may discharge or remove such person upon other sufficient cause appearing to them; and whenever any such person admitted as indigent may be so discharged or removed, except as sane, it shall be the duty of the Sheriff of the county of his settlement to convey such person to his county at its expense; and any indigent person discharged as sane shall receive from such asylum a sum of money sufficient to pay his transportation to the county of his settlement, which sum shall be repaid by said county.

ACTS OF OHIO, 1888.

SECTION I.—*Application for Admission to the Asylum.*

Be it enacted by the General Assembly of the State of Ohio, that Section 705 of the Revised Statutes of Ohio be amended so as to read as follows:—

Probate Judge upon receiving certificate of medical witnesses * * * shall forthwith apply to the Superintendent of the hospital for the insane, situated in the district in which the patient resides; he shall at the same time transmit copies under his official seal of the certificate of the medical witnesses and of his findings in the case; upon receiving application for certificate, the Superintendent shall immediately advise the Probate Judge whether the patient can be received, and if so at what time; the Probate Judge, when advised that the patient will be received, shall forthwith issue his warrant to the Sheriff, commanding him forthwith to take charge of and convey such insane person to the asylum. * * * * *

SEC. 709.—*Discharge of Patients from the Insane Asylum.*

* * * On consent and advice of the Trustees, the Superintendent may discharge any patient from any asylum for the insane, when he deems such discharge proper and necessary; provided, no patient with known homicidal or suicidal propensities shall be discharged without a bond in the sum of one thousand dollars, with two or more sureties, to be approved by the Probate Judge of the county of which the patient is an inhabitant, payable to any person who shall be injured in person or property by any insane act of such discharged person while at large, and such condition to save harmless by paying all damages to such injured person as shall arise in consequence of such insane act, committed by such discharged person.

Any incurable or harmless patients may be discharged to make room for acute cases from the same county; and no patient with known homicidal or suicidal propensities shall be hereafter kept in any county infirmary or jail of the State, except temporarily, while awaiting the order for removal to the State asylum for the insane; when in the opinion of the Superintendent the condition of the patient at the time of discharge is such as to justify such action he may permit such patient to go to his home or leave the institution unattended; and if such patient is not financially able to bear his own expenses, the Superintendent of the institution may furnish the patient a sufficient sum to pay his traveling expenses, and charge the same to the current expense fund of the institution; such sum shall in no one case exceed twenty dollars. * * *

SEC. 704.—*Certificates of Medical Attendants.*

At the time (unless for good cause the investigation is adjourned) the judge shall proceed to examine the witnesses in attendance; and if upon reading the testimony he is satisfied that the person so charged is insane, he shall cause a certificate to be made out by the medical witnesses in attendance. * * *

SEC. 710.—*When Discharged as Cured.*

When a patient is discharged as cured, the Superintendent may furnish such patient with suitable clothing and a sum of money as he deems fit, not in any case exceeding twenty dollars.

SEC. 712.—*Proceedings when Person becomes again Insane.*

When a patient discharged from an asylum for the insane as cured again becomes insane, and a respectable physician files with the Judge of Probate of the county of which the insane person is an inhabitant an affidavit setting forth the fact of the recurrence of the disease and such other facts relating thereto as he deems proper, the Probate Judge shall forthwith transmit a copy of such affidavit, authenticated by his official seal, to the Superintendent of the proper asylum, and thereupon the same proceeding shall be had as provided in this chapter for persons found to be insane upon inquest for that purpose.

SEC. 715.—*When Patient dies Relatives shall be notified.*

When a patient dies in any one of the asylums for the insane, the Superintendent thereof shall immediately notify relatives of such deceased patient, if known to him, and if not so known, he shall immediately notify the Probate Judge of the county from which such patient was sent, who shall forthwith cause a notice of his death to be printed in two of the leading papers published in the county.

SEC. 736.—*Qualifications for Admission.*

The asylum shall be open for admission of all persons over seven years, having a legal settlement in the County of Hamilton; but no person shall be entitled to admission unless he become insane after acquiring a legal settlement therein.

SEC. 740.—*Examination ; Physician's Certificate.*

At the time appointed (unless for good cause the investigation is adjourned) the Judge shall proceed to examine the witnesses in attendance, and if upon the hearing of the testimony such Judge is satisfied that the person so charged is insane, and is included in the class enumerated in this chapter, he shall cause a certificate to be made out by the physician, setting forth the name, age, residence of patient, with a concise history of the case, medical treatment pursued, supposed cause of disease, and such other information as is deemed useful.

SEC. 741.—*Patient shall be taken to the Asylum.*

The Probate Judge, upon receiving the certificate aforesaid, shall forthwith transmit a copy thereof, and his finding in the case, under his official seal, to some suitable person (giving the relatives of the insane person the preference), who shall immediately take charge of and convey such patient to the asylum, and return therefor to the Probate Judge a receipt of the Superintendent, to be filed with the other papers in the case.

LAWS OF OREGON, 1887.

SECTION 3555.—*Superintendent to make Pay-rolls of the Employees.*

At the end of each month the Superintendent shall cause a pay-roll to be made, on which the name of each person employed in or about the asylum, giving the capacity in which each is employed, the rate of salary or wages, and the amount due each; upon receiving this pay-roll, duly receipted by the Superintendent and audited by the Board, the Secretary of the State shall draw his warrant on the Treasury in payment of the several amounts audited and allowed by the Board, and in favor of the person to whom the same is allowed, in a like manner as their warrants are drawn for the payment of claims against the State.

SEC.—3557.—*Judge of the County to Hear and Determine Complaint of Insanity.*

The County Judge of any county in this State shall, upon application stated in writing, setting forth that any person or persons, by reason of insanity or idiocy, is suffering from neglect, exposure, or otherwise is unsafe to be at large; or is suffering under mental derangement, shall cause such person or persons to be brought before him at such time and place as he may direct; and the said County Judge shall also cause to appear at the same time and place one or more competent physicians who shall proceed to examine the person or persons alleged to be insane or idiotic; and if said physician or physicians, after careful examination, shall certify upon oath that such person or persons are insane or idiotic, as the case may be, then such Judge shall cause the said insane or idiotic person to be conveyed to and placed in the Insane Asylum of the State of Oregon. * * * * *

SEC. 3553.—*Superintendent as the Executive Officer.*

The Superintendent shall be the executive officer of the asylum under the regulations and by-laws of the Board of Trustees. He shall have control of the patients, prescribe their treatment, adopt necessary measures for their welfare, and discharge such as in his opinion have permanently recovered their reason, or such other patients as the best interests of the State and the institution require. He shall maintain discipline among the subordinate officers and employees, and enforce obedience to the laws, rules, and regulations adopted for the government of the institution; and is empowered to discharge any employee or attendant for violation of the laws or rules of the asylum, and submit the same to the Board of Trustees immediately for their approval. He shall remit to the Board of Trustees a report of the amount, kind, and quantity of furniture and household furnishing goods, provisions, fuel, forage, cloth, and other material required for six months ending on the first day of June and December of each year, and the Trustees shall then advertise, when practicable, for four successive weeks, for contracts

for furnishing said supplies, or so much thereof as they deem necessary.
 * * * Necessary expenditures other than for provisions, fuel, forage,
 clothing, and furniture, and household furnishing goods may be made by the
 Superintendent subject to the approval of the Board. * * * *

SEC. 3554.—*Superintendent to keep Accurate Accounts and make Monthly Reports.*

The Superintendent shall cause accurate and careful accounts to be kept of the daily expenditures of all classes of stores and property placed in his charge, and shall at the end of each month submit the same to the Trustees for their inspection, and on each daily report shall be shown the number of persons having lodging in the asylum, whether as officer, employee, or patient. * *

LAWS OF PENNSYLVANIA, 1873.

SEC. 1.—*On what Evidence Insane Persons may be placed in an Asylum.*

Insane persons may be placed in a hospital for the insane by their legal guardians, * * * or by their relatives or friends in case they have no guardians, but not without the certificate of two or more reputable physicians under a personal examination made within one week of the date thereof; and this certificate to be duly acknowledged and sworn to or affirmed before some Magistrate or judicial officer, who shall certify to the genuineness of the signatures and to the responsibility of the signers.

SEC. 13.—*Philadelphia State Lunatic Asylum Physician.*

* * * The Trustees shall have charge of the general interests of the institution; they shall appoint a Superintendent who shall be a skillful physician, subject to removal or re-election no oftener than the period of ten years, except by infidelity to the trust reposed in him, or for incompetency; said physician shall also reside in the asylum, and shall be a married man, and his family shall reside with him. * * * *

SEC. 14.—*Powers of the Superintending Physician.*

The superintending physician shall appoint and exercise entire control over subordinate officers and assistants in the institution, and shall have entire discretion of the duties of the same.

LAWS OF PENNSYLVANIA, 1883.

SECTION 19.—*Time within which Certificate must be made.*

The certificate above provided for shall have been made out within one week of the examination of the patient, and within two weeks of the time of the admission of the patient, and shall be duly sworn to or affirmed before a Judge or Magistrate of this Commonwealth, and of the county where such

person has been examined, who shall certify to the genuineness of the signatures, and to standing and good repute of all the signers. And any person falsely certifying as aforesaid shall be guilty of misdemeanor and also liable.

SEC. 23.—*Duty of Medical Attendant.*

* * * The regular medical attendant of the house shall, within twenty-four hours after the reception of any patient, examine such patient and reduce to writing the results of such an examination, and enter the same upon the book to be kept for the purpose, with the opinion formed from such examination and from the documents received with the patient.

SEC. 24.—*When Detention unnecessary, Notice to be given.*

In case the said medical attendant is of the opinion that detention is not necessary for the benefit of the patient, he shall notify the person or persons at whose instance the patient is detained, and unless such a person shall without a delay not exceeding seven days exhibit satisfactory proof of such necessity, the patient shall be discharged from the house and restored to his family or friends.

SEC. 25.—*Interviews Allowed.*

At the time of such examination the medical attendant shall himself cause the patient strictly to understand, if he or she is capable of doing so, that if he or she desires to see or otherwise communicate with any person or persons, means will be provided for such interview or communication, and said attendant shall see that the proper means are taken to communicate this fact to the person or persons indicated by the patient; or any proper person or persons not exceeding two shall be permitted to have a full unrestrained interview with the patient.

SEC. 26.—*Reports to be made by the Medical Attendant.*

The statement furnished at the time of the reception of the patient (and of the examination of the patient by the medical attendant of the house) shall be forwarded by mail to the address of the Committee on Lunacy within seven days from the time of the reception of the patient, which shall by them be entered in a book which shall be kept for the purpose, and at least once in six months there shall be reports made by the medical attendant of the house on the condition of the patient, together with such other matters relative to the case as the said committee may require; and at the same time such report shall be made by request of the secretary of the Committee on Lunacy.

SEC. 28.—*Materials for Correspondence, etc.*

All persons detained as insane shall be furnished with materials and reasonable opportunity, under the discretion of the Superintendent or manager, for communicating under seal, without the building, and such communication shall be stamped and mailed; they shall have the unrestrained privilege of addressing communications, if they so desire, not oftener than once a month, to any member of the Committee on Lunacy.

SEC. 31.—*Persons Restored to Reason to be Forthwith Discharged.*

All persons that have been detained as insane (other than criminal insane duly convicted and sentenced by a court), shall, as soon as they are restored to reason and are competent to act for themselves, in the opinion of the medical attendant of the house, be forthwith discharged; and any person so detained shall at all times be entitled to a writ of habeas corpus for the determination of this question. * * * * In case the discharged patient be in indigent circumstances, such person shall be furnished with necessary raiment and with funds sufficient for sustenance and travel to his home, to be charged to the county from which such patient was committed.

SEC. 32.—*Committee to be Notified of Discharges.*

The Committee on Lunacy shall be notified of all discharges within seven days thereafter, and a record of same shall be kept by the committee.

SEC. 36.—*Postal Privileges of the Patients.*

* * * "That it shall be unlawful and be deemed a misdemeanor in law, punishable by fine not exceeding one hundred dollars, for any Superintendent, officer, physician, or other employee of any insane asylum, to intercept, delay, or interfere with in any manner whatsoever, the transmission of any letter or other written communication addressed by an inmate of any insane asylum to his or her counsel residing in the county in which the home of the patient is, or the State or county in which the asylum is located," is hereby amended so that the same shall extend to superintendents, officers, servants, or other employees of all hospitals, houses, or places which are subject to the provision of this act.

STATUTES OF RHODE ISLAND, MAY, 1884— JANUARY, 1885.

CHAPTER 479.—*Apportionment of Insane Paupers at the Butler Hospital or other Curative Hospitals.*

Whenever it shall appear by the written certificate of two practicing physicians of good standing that any pauper within the State is insane, and may be benefited by curative treatment, the Agent of State Charities and Corporations, with the written consent of the Governor, may place such insane pauper in the Butler Hospital for the Insane; but in case such pauper cannot be received in the said hospital, then at some public curative hospital for the insane within the State.

PUBLIC STATUTES OF RHODE ISLAND, 1882.

CHAPTER 74.—SECTION I.—Whenever complaint in writing and under oath shall be made to any trial justice or clerk of a justice court, that any person within the county is a lunatic, or so furiously mad as to render it dangerous to

the place or safety of the good people of the State, for him to be at large and that such person is at large, such trial justice or clerk shall issue his warrant, under his hand and seal and returnable forthwith, directed to the deputy sheriffs, town sergeants, or constables requiring the officer charged therewith to apprehend such person, and convey him with such warrant before such or some other justice court for examination relative to such complaint.

SEC. 2.—*Examination and Proceedings on Return of the Warrant and Commitment of the Mad Person.*

If the court on such examination shall adjudge such complaint to be true, it shall, unless a recognizance satisfactory to said court be then given before it, that said person shall not be permitted to go at large until restored to soundness of mind, commit such person by warrant under its hand and seal to the Butler Hospital for the Insane, or to the State Hospital for the Insane, there to be detained until in the judgment of some Justice of the court of the county in which he may be detained, he shall, upon inspection and examination, be declared to be restored to soundness of mind, or to be no longer under the necessity of restraint, or until recognizance as aforesaid, satisfactory to such court, shall be given.

SEC. 10.—*When a Person committed may be Discharged though not Cured*

Any person committed to any such institution under the previous proceedings of the Fourth Section may, although not restored to sanity, be discharged therefrom upon the written recommendation of the Trustees and Superintendent thereof, or an order of any Justice of the Supreme Court, to be made in his discretion.

SEC. 11.—*Commitment of Lunatics.*

Insane persons may be removed to and placed in the said Butler Hospital or State Asylum for the Insane, if they can be there received, and if not, in any other curative hospital for the insane of good repute in this State. * * * But the Superintendent of said hospital shall not receive any person into his custody in such case without the certificate from two practicing physicians of good standing, known to him as such, that such person is insane.

SEC. 12.—*Powers of Superintendent to Receive and Detain Lunatics.*

Any person committed to the charge of any of the said institutions for the insane as aforesaid, in either of the modes herein described, may lawfully be received and detained in said institution by the Superintendent thereof, and by his keeper and servants, until discharged by any one of the modes herein provided; and no Superintendent, his keepers or servants, nor the Trustees or agents of same, shall be liable, civilly or criminally, for receiving or detaining such person so committed or detained.

SEC. 14.—*Superintendent may discharge; when.*

The Superintendent of such institution for the insane within the State may,

on the application of any relative or friend, with the proper approval in writing of the visiting committee or Trustees, discharge from such institution any patient not committed by process of law.

SEC. 30.—*To visit Insane Persons.*

The State Commission, or either of the members thereof, shall from time to time in their discretion visit every institution or place wherein any person insane or alleged to be insane is restrained of his liberty, and alone or attended, as they shall elect, examine into the condition and complaint of any one so confined.

SEC. 31.—*Duty of Persons in Charge of Insane Persons.*

The Superintendents, officers, keepers, and assistants, and other persons in charge wherever any insane person is confined, are forbidden and enjoined from in any way or manner interfering, hindering, or preventing any person so confined from communicating at all times, in manner as aforesaid, with said commission, except under consultation, and with the full consent in writing of the commission. And every such Superintendent, officer, keeper, and assistant, or other person, shall afford to every person under his charge, with the exception of the aforementioned, every facility for making such communications, according to the true intent and meaning thereof, and shall forward such communication to the said commission without delay.

LAWS OF SOUTH CAROLINA, 1884.

ACT 508.—SECTION 1.—*Certificate of Physicians.*

* * Physicians examining summoned persons alleged to be insane for admission to a lunatic asylum shall certify under oath that they are registered in accordance with the State law, that they have examined the persons separately, and that they are not related by blood or marriage to any of the persons; they shall also certify under oath that to the best of their medical knowledge the persons they recommend for admission to the lunatic asylum are epileptics, idiots, or lunatics, incurable at home, and that they are violent or dangerous.

SEC. 2.—*Idiots, Epileptics, etc., not to be sent unless violent.*

Physicians giving certificates recommending commitment to the asylum of a person who is simply idiotic, epileptic, physically infirm or mentally imbecile, unless such person is violent or dangerous, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined by the District Court.

LAWS OF 1882.

ACT 121.—SECTION 1.—*Terms and Conditions upon which Patients may be Admitted into the Asylum.*

* * The Superintendent and Regents of the State Lunatic Asylum

shall not receive into said institution any beneficiary patient, unless the order consigning such person to the asylum is accompanied by report from the County Commissioners of the county from which such person is sent, certifying that they have carefully investigated the circumstances and conditions of such person, his or her family, parent, or guardian, and that such person is a proper subject for the beneficiary care and to what extent.

SOUTH CAROLINA LAWS, 1881-2.

CHAPTER 646.—SECTION 1.—*How Lunatics are to be Sent to the Asylum.*

* * * All officers now authorized by law to send insane persons to the lunatic asylum shall, before sending such insane person to the asylum, notify the chairman of the Board of County Commissioners, or one of such Board, that such person should be sent to the lunatic asylum, having first had such lunatic, if of a dangerous or violent character, so secured as not to do any damage or injury. * * *

SEC. 1586.—*How to be Admitted to the Asylum.*

It shall be the duty of the Regency to admit as subjects of the institution all idiots, lunatics, and epileptics, under the statutes of this State and subject to the following conditions; that is to say: * * * (3) all persons who shall be declared lunatics, idiots, or epileptics. After due examination by one trial Justice and two licensed practicing physicians of the State, where the subject is a pauper, the admission shall be at the request of the County Commissioners wherein such pauper has a legal settlement; otherwise the admission shall be at the request of the husband or wife, or where there is no husband or wife, of the next of kin of the idiot, lunatic, or epileptic.

SEC. 1588.—*Judges may Direct Inquisition.*

Whenever a Judge of Probate or a Judge of the Circuit Court shall direct an order to any trial Justice to inquire as to the idiocy, lunacy, or epilepsy of any person, or when information on oath shall be given to any trial Justice that a person is an idiot, lunatic, or epileptic, and is chargeable for his support on the county, it shall be the duty of said trial Justice forthwith to call to his assistance two licensed practicing physicians, and examine such person as to evidence of his or her idiocy, lunacy, or epilepsy, and if after full examination they shall find such person an idiot, lunatic, or epileptic, they shall certify to said Judge or Board of County Commissioners whether in their opinion such person is curable or incurable, and whether his enlargement would be harmless or dangerous or annoying to the community; and thereupon the Judge or Board of County Commissioners in its discretion may make an order that the said person shall be sent to the lunatic asylum.

SEC. 1594.—*Discharge of Lunatics.*

Whenever any lunatic or epileptic shall have recovered, it shall be the duty of the Regents to discharge him from the asylum.

SEC. 1596.—*Ill-treatment of Patients by Employees.*

It shall be the duty of the Regents to remove from office and cause to be indicted any person employed in the said institutions who shall assault any idiot, lunatic, or epileptic in their care, with greater violence than may be necessary for his or her restraint, government, or care.

CODE OF TENNESSEE, 1884.

ARTICLE II.—SECTION 2027.—*Qualifications of Superintendent.*

The Superintendent of the hospital shall be appointed by the Board of Trustees, and shall be a skillful physician, of unblemished moral character, of enlightened and thorough professional education, of prompt business habits and of humane and kind disposition.

SEC. 2028.—*Residence, etc.*

He shall be a married man, and with his family shall reside constantly in the institution.

SEC. 2029.—*Term of Office.*

He shall hold his office for eight years, but may be removed by the Board of Trustees for infidelity to his trust or incompetency fully shown and declared.

SEC. 2030.—*Powers over Officers.*

He shall exercise entire control over all subordinate officers and assistants in the hospital, and shall have entire direction of the duties of same, he himself being accountable to the Board of Trustees for their good character and fidelity in the discharge of their duties.

SEC. 2036.—*Duties.*

It shall be the duty of the Superintendent, under the orders of the Board of Trustees—First, to exercise a general superintendency over all matters relating to the hospital. Second, to visit the patients therein at least twice a week, or oftener if necessary. Third, to call meetings of extraordinary importance of the Board whenever he may deem it necessary. Fourth, to report to the Trustees immediately before each General Assembly: first, the number of patients admitted into the asylum; second, date of admission of each patient; third, the degree and kind of insanity with which each patient is afflicted; fourth, length of time each person was supposed to have been affected before admission; fifth, the profession, occupation, age, and habits of each patient, and whether married or single; sixth, the names of those discharged, and the condition of each when discharged; seventh, and such other particulars as he may deem necessary to further action and legislation thereon.

SEC. 2037.—*In Reference to Removal of Patients.*

The Superintendent, by authority of the resident Board of Trustees or a majority of them, shall have power to require the removal of any patient, paying or non-paying, whenever in their opinion it is advisable to do so.

TITLE 7.—REVISED STATUTES OF TEXAS, 1879.

ARTICLE 67.—*Board of Managers.*

The general control and management and direction of the affairs of the State Asylum shall be vested in the Board of Managers, to be styled the "Board of Managers of the Lunatic Asylum."

ART. 73.—*Monthly Inspection.*

One or more of the Managers shall visit the asylum and inspect the same at least once every month.

ART. 75.—*Superintendent Provided For.*

The Governor of this State shall appoint, by and with the advice and consent of the Senate, a Superintendent of the lunatic asylum, who shall, unless sooner removed, hold his office for a term of two years, and, in the case of a vacancy in said office, the appointment shall be only for the expiring term, and the term of such officer shall, in any event, expire with the term of the Governor making the appointment.

ART. 76.—*Qualification of the Superintendent.*

The Superintendent shall be a married man, and also of experience in the treatment of insanity. He shall reside in the hospital with his family, and shall devote his whole time exclusively to the duties of his office.

ART. 80.—*Powers and Duties of the Superintendent.*

The Superintendent shall be the chief executive, medical, and disbursing officer of the institution, and subject to the by-laws, but shall have general care and control over everything connected therewith. He shall attend to the enforcement of the laws of the State relating to the asylum, and by-laws of the institution, and shall take care that all employees connected therewith diligently and faithfully perform duties assigned to them.

ART. 81.—The Superintendent shall also, with the consent of the Board of Managers, employ such officers, attendants, and other persons as may be required for the service of the institution, and with like consent may discharge them at pleasure. He shall also receive and discharge patients, superintend repairs and improvements, and take care that all moneys entrusted to him are judiciously and economically expended.

ART. 82.—The Superintendent shall keep also an accurate and detailed account of all moneys received and expended by him, certifying the source from which such moneys were received, and to which and on what account to

be used; and on the 1st day of July of each year he shall report the same under oath to the Governor.

ART. 83.—The Superintendent shall also keep and register patients received into the asylum and discharged therefrom, together with a full record of all the operations of the institution, and on the 1st day of November of each year he shall report such operations in full to the Governor, accompanied with such suggestions and recommendations concerning the management and operations of the asylum as may be deemed important.

ART. 84.—*Annual Inventory.*

On the 1st day of November of each year the Superintendent shall cause inventory of all the personal property belonging to the asylum to be prepared, in which inventory an estimated value shall be set beside each article, and shall submit the same to the Board of Managers.

ART. 92.—Before any person can be received as a patient * * *
* * * * * the parent or legal guardian of such person, or in the case he has no parent or guardian, then some one relative or other person interested in him must present a written request to the Superintendent for his admission, setting forth the name, age, residence of the lunatic, together with such particulars as may be required by the Superintendent or the by-laws of the institution; which written request must be under oath of the party representing it, and be accompanied with an affidavit of the physician certifying to the insanity, that he has made a careful examination of the person for whom admission is applied for, and verily believes him to be insane.

ART. 93.—*County Judge must Certify.*

The application referred to in the preceding article must also be accompanied by the certificate of the County Judge of the county where the lunatic resides, that the physician certifying to the insanity of the person under charge is a respectable physician in regular practice, which certificate of the County Judge must be attested by the seal of the county court of his county.

ART. 99.—*Discharge of Patients.*

Any patient, except such as are charged with or convicted of some offense and have been adjudged insane in accordance with the provisions of the code of criminal procedure, may be discharged from the asylum at any time upon the recommendation of the Superintendent, approved by the Board of Managers. Any patient coming within the above exception can only be discharged by order of the court by which he was committed.

ART. 100.—No patient shall be discharged without suitable clothing and sufficient money to pay his expenses home; and when a patient is discharged by order of the court he shall be provided with a suitable guard and conveyed to his friends, or to the county from which he was sent.

ART. 106.—*Apprehension of Lunatics.*

If information written under oath be given to any County Judge, that any person in his county is a lunatic or *non compos mentis*, and that the welfare of himself or of others requires that he be placed under restraint, and said County Judge shall believe such information to be true, he shall forthwith issue his warrant for the apprehension of such person, and shall fix a day for the hearing and determination of the matter.

ART. 120.—*Suitable Clothing to be Provided.*

Before sending any patient to the asylum the County Judge shall take care that the patient is provided with two full suits of substantial summer clothing, and one full suit of substantial winter clothing.

LAWS OF UTAH, 1880.

CHAPTER 31.—SECTION 13.—*Qualifications of the Medical Superintendent and his Duties.*

The Medical Superintendent shall be well educated, an experienced physician, and a regular graduate in medicine, and shall have practiced at least five years from the date of his diploma. He shall have the general superintendence of the buildings, grounds, and property thereof, subject to the laws and regulations of the Directors. He shall have control of the patients, prescribe their treatment, adopt sanitary measures for their welfare, and discharge such as in his opinion have permanently recovered their reason. He shall appoint, with the approval of the Directors, as many attendants as may be necessary for the efficient and economic care and management of the asylum, and, with the consent of the Board of Directors, fix their compensation and discharge any of them. He shall prescribe the duties of the subordinate officers, maintain discipline among them, and enforce obedience to the laws, rules, and regulations adopted for the government of the institution. He shall estimate quarterly, in advance, the probable expenses of the asylum, and submit the same to the Board of Directors at their regular meeting preceding the commencement of such quarter, for their approval. * * * * The Medical Superintendent shall cause to be kept full and accurate accounts and records of his official transactions from day to day, in books provided for that purpose, in the mode prescribed in the by-laws. He shall see that his accounts are fully made up to the thirty-first of December in each year, and shall submit his annual report to the Board of Directors immediately. He shall visit the asylum every day in the year, unless he obtain leave of absence from the president of the Board of Directors, in which event the assistant physician shall discharge his duties. * * * *

SEC. 16.—*Judge of Probate may, if found necessary, direct that Insane Persons be placed in an Insane Asylum.*

The Probate Judge of any county in this Territory shall, upon application under oath, setting forth that a person, by reason of insanity, is dangerous to be at large, cause such person to be brought before him, and he shall summon to appear, at the same time and place, two or more witnesses who well knew the accused during the time of alleged insanity, who shall testify, under oath, as to the conversation, manners, and general talk upon which charge insanity is based, and shall also cause to appear before him, at the same time and place, two practicing physicians in medicine, before whom the Judge shall examine the charged; and if, after a careful hearing of the case and a personal examination of the alleged insane person, the said physicians shall certify, on oath, that the person is insane, and the case is of recent or curable character, or that the insane person is of homicidal, suicidal, or incendiary disposition, and that from any other violent symptoms the said insane person would be dangerous to his or her own life, or to the lives or property of the community in which he or she may live, and the said physicians shall also certify to the name, age, nativity, residence, occupation, length of time in the Territory, State, or county last from, previous habits, premonitory symptoms, apparent cause, and class of insanity, duration of the disease, and present condition, as nearly as may be ascertained by inquiry and examination; and if the Judge shall be satisfied that the facts revealed in the examination establish the insanity of the person accused, and that it is of a recent or curable nature, or of homicidal, suicidal, or incendiary character, or that from the violence of the symptoms the said insane person would be dangerous to his or her own life, or to the lives or property of others, if at large, he shall direct a Sheriff of the county, or some suitable person, to convey to and place in charge of the officers of the Territorial Insane Asylum such person, and shall transmit a copy of the complaint and commitment, and physicians' certificate, which shall also be in the form furnished by the Medical Superintendent of said asylum. * * *

VERMONT, 1884.

ACT NO. 52.—SECTION 1.—It is hereby enacted by the General Assembly of the State of Vermont, that section 2898 of the Revised Laws is hereby amended so that it will read as follows:—

The Supervisors shall visit the Vermont Hospital for the Insane as often as occasion requires, and one member as often as once a month; and also any other place where insane persons are confined in the State, at their discretion; shall examine into the condition of the said asylum, and such other places where insane persons are confined, the management and treatment of the

patients therein, their physical and mental condition, and medical treatment; form a careful opinion of the patients, apart from the officers and keepers, and investigate the cases that in their judgment require special investigation, and particularly ascertain whether persons are confined in such asylum or other places who ought to be discharged. They shall have the general supervision of the insane of the State not in confinement, so far as it concerns their physical and mental condition, their care, management, and medical treatment; and also those who are discharged from such asylum or place of confinement by authority under Section IV of the act approved November 28, 1882, and shall make such order therein as such case requires.

REVISED STATUTES, 1880.

CHAPTER 139.—SECTION 2897.—*Supervisors.*

The General Assembly shall elect biennially three Supervisors of Insane, who shall hold their office for two years commencing on the first day of the next December; and the Governor may fill vacancies of the Board during the term. Two of said supervisors shall be physicians, and none of them shall be a trustee, superintendent, employee, or other officer of an insane asylum in the State.

SEC. 2900.—*Powers of the Supervisors.*

The Supervisors may administer oaths, summon witnesses before them in any case under their investigation, and discharge by their order in writing any person confined as a patient in any asylum for the insane whom they find on investigation to be wrongfully confined, or whom they find so far sane as to warrant discharge. But convicts sent to an asylum from the State Prison or House of Correction, who are found sane before the expiration of their sentence, shall not be discharged, but the Supervisor shall order their return to the Prison or House of Correction. In no case shall the Supervisor order the discharge of a patient without giving the Superintendent of the asylum an opportunity to be heard.

SEC. 2905.—*Fine for not Discharging Patient after Recovery.*

If a trustee, superintendent, employee, or other officer of any asylum for the insane wilfully and knowingly neglects or refuses to discharge a patient after such patient has become sane, or after the Supervisors have ordered his discharge, such trustee, superintendent, employee or other officer shall be fined not more than five hundred dollars.

SEC. 2906.—*Physician's Certificate Required.*

No person, except as hereinafter provided, shall be admitted or detained in an insane asylum as a patient or inmate, except upon the certificate of such person's insanity made by two physicians of unquestioned integrity and skill, residing in the probate district in which such insane person resides, or if such

insane person is not a resident of the State in the probate district in which the asylum is situated; or if such insane person is a convict in the State Prison or House of Correction, such physicians may be residents of the probate district in which such place of confinement is situated.

SEC. 2907.—*Certificate, When to be made.*

Such certificate shall be made not more than ten days previous to the admission of such insane person, and, with the certificate of the Judge of Probate of the district in which the physicians reside that such physicians are of unquestioned integrity and skill in their profession, shall be presented to the proper officer at the time such insane person is presented for admission.

SEC. 2908.—*Physicians to Certify upon Examination.*

The certificate of the physician shall be given only after a careful examination of the supposed insane person, made not more than five days previous to the giving of the certificate; and the physician who signs the certificate without making such previous examination shall, if the person is admitted to any asylum under the certificate, be fined not less than fifty dollars and not more than one hundred dollars.

CODE OF VIRGINIA, 1887.

SECTION 1668.—*Annual Reports.*

The Board of each asylum shall annually before the first day of November report to the Governor, for the information of the General Assembly, the condition of the asylum, and an account of all sums received and disbursed, with a list of the patients designated by name or otherwise in the asylum during the preceding year, showing their age and sex, place of residence, and civil condition, deaths, and discharges, and condition when discharged, and any statistics and remarks as to the management of insane and the subject of insanity which in their judgment may be useful.

SEC. 1669.—Any Justice who suspects any person in his county or corporation to be a lunatic, shall issue his warrant ordering such person to be brought before him. He and two other Justices shall inquire whether such person be a lunatic, and for that purpose summon his physician (if any), and any other witnesses. * * *

SEC. 1670.—If the Justices decide that the person is a lunatic and ought to be confined in an asylum, unless some person (to whom the Justices in their discretion may deliver such lunatic) will give bond with sufficient security to be approved by them, payable to the Commonwealth, with condition to restrain and take proper care of such lunatic until the cause of his confinement shall cease, or the lunatic is delivered to the Sheriff of the county or corporation, to be proceeded with according to law, the said Justices shall order him to be

removed to the nearest asylum on receipt of notice of there being room therein, and if not, to either of the others.

SEC. 1673.—The Superintendent of the asylum, when such vacancy exists, is authorized, when practicable, to send a guard for the lunatic, or empower any person of responsibility and character to guard and conduct him to the asylum, and furnish the person so appointed with a certificate of his appointment; or, where neither of such arrangements are practicable, the Sheriff shall conduct such lunatic to the asylum. * * * * *

SEC. 1674.—*Examination and Admission of Lunatics.*

When such patient arrives at the asylum the Superintendent or his attendants shall examine him, and if they concur in opinion with the Justices, shall receive and register him as a patient.

SEC. 1688.—*Discharge of other Restored Lunatics.*

When any other person confined in an asylum or jail as a lunatic shall be restored to sanity, the Superintendent or the Court, as the case may be, shall discharge him and give him a certificate thereof.

CODE OF WASHINGTON, 1881.

SECTION 2251.—*Appointment and Qualifications of Superintendent.*

The Superintendent shall be a skillful practicing physician, and shall reside upon the hospital grounds; he shall be at his office for such time as the Trustees may deem wise, and for the efficiency and economy of the institution, he shall have entire control of the medical, moral, and dietetic treatment of the patients, and, so far as is not inconsistent with the by-laws and regulations of the hospital, of all other internal government and economy of the institution; and he shall in such manner, and under such restrictions, and for such terms of time as the by-laws may prescribe, appoint all subordinate employees, and shall have entire direction of them in their duties.

SEC. 2260.—*No Person Laboring under Contagious Disease Admitted.*

No person laboring under any contagious or infectious disease shall be admitted in said hospital as a patient.

SEC. 2264.—*When and how Patients may be Discharged.*

Any patient may be discharged from the hospital, when in the judgment of the Superintendent it may be expedient. Whenever a patient not cured, or any indigent patient shall be ordered discharged, the Superintendent shall immediately send notice thereof to the Probate Judge of the county in which said patient resided, and if in the judgment of the Superintendent such patient so ordered to be discharged is in fit condition to be sent to his or her county by any person, the Superintendent may return the patient to the county, from whence he or she came, if indigent, at the expense of said county; but if such

patient so ordered to be discharged from said hospital and care, without endangering the health of such patient, is through or by any reason unfit to be sent alone to the county from which he or she was committed to said hospital, the Superintendent shall so certify to the Probate Judge of said county, who shall immediately upon receipt of the notice issue his warrant to the Sheriff, commanding him to remove the patient and return him or her to the county from whence he or she came. If, within thirty days after the notice, the patient be not removed, the Superintendent, if he thinks necessary, may return the patient to the county from which he or she came, at the expense of the county; provided, that if any such patient is not in a condition to either go or be removed to said county, he or she may, for the time being, be retained in said hospital at the expense of the county from which he or she was so committed.

SEC. 2267.—*The Superintendent shall Ascertain History of each Patient.*

It shall be the duty of the Superintendent to ascertain, by diligent inquiry and correspondence, the history of each and every patient admitted to the hospital, and whether such patients, or their friends or families, if there be any, are able to defray the expenses of his or her care, and report the facts to the board of trustees, who shall use efficient means for the collection of all sums due the institution, from those who are able to pay for such care.

SEC. 2273.—*Correspondence of Patients free from Censorship.*

There shall be no censorship exercised over the correspondence of inmates of insane asylums, except as to the letters to them directed; but their other post-office rights shall be as free and unrestrained as are those of any other resident or citizen of this territory, and be under the protection of the same postal laws; and every inmate shall be allowed to write one letter per week to any person he or she may choose. And it is hereby made the duty of the Superintendent to furnish each and every inmate of each and every insane asylum, both public and private, in the Territory of Washington, with suitable material for writing, enclosing, sealing, stamping, and mailing letters sufficient for writing of one four-paged letter a week; provided they request the same, unless they are otherwise furnished with it; and all these letters shall be dropped by the writers themselves, accompanied by an attendant, when necessary, into a post-office box, provided by the Territory at the institution, in some place easily accessible to all the patients, and the contents of these boxes shall be collected at least as often as once a week, by an authorized post-office agent; and it is hereby the duty of the Superintendent of every insane asylum in the Territory of Washington, both public and private, to deliver or cause to be delivered to said person any letter or writing for him or her directed; provided, the physician in charge does not consider the contents of such letter dangerous to the mental condition of the patient.

SEC. 2282.—*Upon Delivery of Patient Superintendent must give Certificate, Stating Name of Patient and County.*

Whenever any patient is delivered at the asylum under the provision of this act, the Superintendent of this asylum shall give to the Sheriff or guard delivering such patient, from what county admitted, and the Court that committed the same.

LAWS OF WASHINGTON, 1883.

SEC. 1632.—The Probate Court of any county in this Territory, or the Judge thereof, upon application, or any person under oath, setting forth that any person by reason of insanity is unsafe to be at large, or is suffering under mental derangement, shall cause such person to be brought before said Court or Judge, at such time and place as the Court or Judge may direct, and shall cause to appear at said time and place one or more respectable physicians, who shall under oath, in writing, give their opinion of the case, which opinions shall be carefully preserved and filed with other papers in the case, and if the said physician or physicians shall certify to the insanity or idiocy of said person, and it appear to the satisfaction of the Court, or Judge, that such is the fact, said Court or Judge shall cause such insane or idiotic person to be taken to and placed in the Hospital for the Insane of Washington Territory; provided, that such person, or any person in his behalf, may demand a jury to decide upon the question of his insanity; and the Court or Judge shall discharge such person if the verdict of the jury is that he is not insane; provided also, that when the relations or friends desire to take charge of such insane or idiotic person, the Court or Judge may so order, if they shall give bonds, to be approved by said Judge, conditioned that such insane or idiotic person shall be well and securely kept.

AMENDED CODE OF WEST VIRGINIA, 1884.

CHAPTER 58.—SECTION 7.—*West Virginia Hospital for the Insane.*

A Superintendent, and as many assistants as may be necessary, who shall be physicians, and other officers, shall be appointed by the Board, and shall receive such compensation as the Board may prescribe. The Board may also appoint an executive committee, and may authorize the Superintendent to employ as many nurses and attendants as may be necessary, and also discharge them, or any of them, and employ others, but the Board shall fix their compensation; any one or more of the Directors, together with the Superintendent, shall constitute an Examining Board, and may examine persons brought to the asylum as lunatics, and order those found to be such to be received.

SEC. 11 (Acts 1882, p. 133).—Any Justice who shall suspect any person in his county to be a lunatic, shall issue his warrant, ordering such person to

be brought before him. He shall inquire whether such person be a lunatic, and for that purpose summon a physician and other witnesses. In addition to any other questions he may propound as many of the following as may be applicable to the case: 1. What is the patient's age, and where born? 2. Is he married; if so, how many children has he? 3. What are his habits and occupation? 4. How long since have inclinations of insanity appeared? 5. What were they? 6. Does the disease appear to increase? 7. Are there periodical exacerbations—any lucid intervals, and of what duration? 8. Is his derangement evinced on one or several subjects? what are they? 9. What is the supposed cause of his disease? 10. What change is there in his bodily condition since the attack? 11. Has there been a former attack; when, and of what duration? 12. Has he shown any disposition to commit violence to himself or others? 13. Whether any, and what restraint has been imposed on him? 14. If any, what connections of his have been insane? were his parents or grandparents blood relations; if so, in what degree? 15. Has he any bodily disease from suppressions of evacuations, eruptions, sores, injuries, or the like, and what is its history? What curative means have been pursued, and their effects, and especially if depleting remedies, and to what extent have they been used?

SEC. 12.—If the said Justice decide that the person is a lunatic, and ought to be confined in the hospital, and that he is a citizen of the State, then, unless some person to whom the Justice, in his discretion, may deliver such lunatic, will give bond, with sufficient security, to be approved by said Justice, payable to the State, with condition to retain and take care of such lunatic, until the cause of confinement shall cease or the lunatic is delivered to the county, to be proceeded with according to law, the said Justice shall order him to be removed to the hospital and received, if there be room therein.

SEC. 23.—*When Persons may be Discharged from Hospital.*

Except in the case of a person charged with crime and subject to be tried therefor, or convicted of crime and subject to be punished therefor, when in a condition to be so tried or punished, the Board of the hospital, or the circuit of any county, may deliver any lunatic confined in the hospital or in the jail of such county, to any friend who will give bond with security, with the condition mentioned in the twelfth section of this chapter, and where a lunatic, except as aforesaid, is deemed by the Superintendent of the hospital both harmless and incurable, the Board may deliver him without such bond to any friend who is willing and, in the opinion of the Board, able to take care of him.

SEC. 50.—*General Provisions.*

If any Director of the hospital, Justice, clerk of a court, or other officers shall fail to perform any duty required of him in the chapter, or shall offend

against any prohibition contained herein, he shall forfeit not less than fifty nor more than one hundred dollars.

SEC. 51.—The word “lunatic,” whenever it occurs in this chapter, shall be construed to include every insane person who is not an idiot.

REVISED STATUTES OF WISCONSIN, 1879-1883.

CHAPTER 32.—SECTION 588.—*Duties of the Superintendent.*

The Superintendent of each hospital shall, before entering, upon the duties of his office, take and subscribe an oath, faithfully and diligently to discharge the duties required of him by law and the by-laws of the Board of Trustees. He shall be chief executive officer of the hospital, and shall devote all his time and attention to his duties; he shall exercise entire control over all the subordinate officers; he shall employ all employees and assistants necessarily connected with the institution below the grade designated in the by-laws as officers, and may discharge any officer, assistant, or employee at will, being responsible to the Board of Trustees for the proper exercise of that duty in regard to officers. The Superintendent shall not be compelled to obey the subpoena of any court in any case, civil or criminal, if he shall file with the Magistrate or clerk his affidavit that to obey the same would be seriously detrimental and hazardous to the welfare of the hospital under his charge, except when an accusation of murder is to be tried; nor in such case, unless the Judge shall make a special order therefor, and the subpoena, with a memorandum thereof endorsed thereon, be served one week before the time when he shall be required to appear; provided, however, that no person shall be entitled, in any case, to make and file such affidavit, exempting him from subpoenas as aforesaid, who shall upon tender of the usual fees of witnesses, in courts of record, refuse to be present and to give his deposition at his office or usual place of business, or instead thereof, at his house or usual place of abode. Provided, further, that any person so present and giving his deposition at his office or usual place of business, or instead thereof at his house or usual place of abode, who shall be detained four hours from the time fixed for the taking of such deposition, or from the time to which the taking of the same may have been adjourned, may make affidavit that further detention would be seriously detrimental or hazardous to the welfare of the person or business in or under his charge; and such affidavit having been made, a Justice of the Peace, Court Commissaries, Notary Public, or other authorized officer before whom such deposition is given, shall thereupon adjourn further proceedings thereon to a future day.

SEC. 593.—*Proceedings to Determine Insanity; Examination by Physicians.*

Whenever any resident of this State, or any person from therein, whose resi-

dence cannot be ascertained, shall be or be supposed to be insane, application may be made in his behalf by any respectable citizen to the Judge of the County Court, Judge of the Circuit Court, or any Judge of a court of record in and for the county in which he resides, or, in case his residence is unknown, the county in which he is found, for a judicial inquiry as to his mental condition, and for an order of commitment to some hospital or asylum for insane. The application shall be in writing and shall specify whether or not a trial by Judge is desired by applicant. On receipt of said petition the Judge to whom it is addressed shall appoint two disinterested physicians, of good repute for medical skill and moral integrity, to visit and examine the person alleged to be insane, and such physicians shall proceed without unnecessary delay to the residence of the person supposed to be insane, and shall by personal examination and inquiries satisfy themselves as to his condition and report the result of their examination to the Judge. * * * * *

SEC. 593. * * * * * Upon the receipt of the report of the examining physicians, the Judge may, if no demand has been made for a jury, make and enter his order of commitment to the hospital or asylum of the district to which the county belongs, or if not fully satisfied, he may make such additional investigation of the case as may seem to him to be necessary and proper, and at any stage of the proceedings, and before the actual confinement of the person alleged to be insane, he, or any relative or friend acting in his behalf, shall have the right to demand that the question of sanity be tried by a jury, and when such demand is made, the Judge shall forthwith enter an order for a jury trial.

In case a trial by jury is demanded, the forms of procedure shall be the same as in trials by jury in Justices' courts, and the trial shall be in the presence of the person supposed to be insane, and his counsel and immediate friends and the medical witnesses. * * * *

SEC. 593.—*County Judge may Order Insane Persons Confined.*

On receipt by the County Judge of the petition provided for by Section 1, of Chapter 266, of the General Laws of 1880, such Judge may, if in his opinion the public safety requires it, deliver to the Sheriff of his county an order in writing, requiring him forthwith to take and confine such insane or supposed insane person in some place to be specified, until further order of the Judge, and after the receipt by such Judge of the report of the examining physicians provided for in said chapter, such Judge may, in his discretion, deliver to such officer such order in writing requiring him forthwith to take such person into custody, and keep him in some place to be specified, until the further order of such Judge. The examining physicians provided for by said Section 1, of said Chapter 266, in addition to the report required to be made by them by

said section, shall state as follows: Has the patient any infectious disease? In your opinion is he insane?

SEC. 593.—If any relative or friend—being of a legal age and competent to perform the duties—of any person committed to any hospital for the insane shall request the warrant for such commitment may be delivered to and executed by him, he shall be paid his necessary expenses, not exceeding the fees and expenses now allowed to sheriffs according to law; otherwise it shall be delivered to the Sheriff who, taking such assistants as the courts issuing such warrants may deem necessary, shall receive such insane person and convey him to the hospital.

REVISED STATUTES OF WYOMING, 1887.

SECTION 2287.—*Application for Inquisition.*

If information in writing be given to the Probate Judge, that any person in the county is an idiot, lunatic, or person of unsound mind, or an habitual drunkard, or incapable of managing, and praying that an inquiry thereinto be had, the court, if satisfied that there be good cause for the exercise of its jurisdiction, shall cause the facts to be inquired into by a jury.

SEC. 2288.—*Court may act in Vacation.*

Such information may also be given in the vacation of said court, to the Judge therefor, in which event he shall call a special term of the court for the purpose of holding an inquiry, whether the person mentioned in such information be of unsound mind, or an habitual drunkard, or not.

SEC. 2289.—*Person may be Brought into Court.*

In proceeding under this chapter the Probate Court may, in its discretion, cause the person alleged to be of unsound mind or habitual drunkard to be brought before the Court.

SEC. 2290.—Whenever any Judge of the Probate Court, Justice of the Peace, Sheriff, Coroner, or Constable, shall discover any person resident of his county to be of unsound mind or an habitual drunkard, as in the first section of this chapter mentioned, it shall be his duty to make application to the Probate Court for the exercise of its jurisdiction, and thereupon the like proceedings shall be had as in the case of information by unofficial persons.

1888.

CHAPTER 85.—SECTION 1.—That Section number thirty-seven hundred and sixty-five of the Revised Statutes of Wyoming be amended and revised, so as to read as follows: Section 3765. After the building herein provided for shall have been completed and accepted by the Board of Commissioners, the Board shall serve notice in writing upon the Boards of County Commissioners of all

the different counties in this Territory, which notice shall state that the Asylum for Insane at Evanston is now completed, and ready for the reception and care of insane persons. Each Board of County Commissioners shall, after the receipt of such notice, cause all persons adjudged to be insane, and whose care shall have been thrown upon the county, to be sent as patients to the Insane Asylum at Evanston, there to be kept and cared for at the expense of said county. And all insane persons having been sent to asylums outside of this Territory shall, upon the completion of said asylum at Evanston, and notice to the Board of County Commissioners as hereinbefore provided, be returned as soon as practicable, under an order of the respective Boards of County Commissioners, to this county, to be kept and cared for at the Insane Asylum at Evanston.

SEC. 3764.—1887.—*Superintendent of Asylums; Qualifications and Duties.*

The Board of Commissioners shall elect one resident physician, who shall be the General Superintendent of the insane asylum herein provided for, subject at all times to the order and duties of said board, which shall have power at any time, whenever in their judgment it shall be deemed proper and for the best interests of the Territory, to discharge and remove such Superintendent. The Superintendent so elected shall reside at the asylum, be a graduate in medicine, and receive a salary of eighteen hundred dollars per year, payable in advance in equal instalments. He shall cause to be kept a fair and full account of all his doings, and the actual business and operations of the institution, and submit a monthly report to the Board of Commissioners. The Superintendent shall employ all necessary help needed at the Asylum, subject to the approval of the Board of Commissioners.

SEC. 3766.—Paying patients, whose friends offer and will pay, or who have property to pay their expenses, shall be admitted to the insane asylum, according to the terms directed by the Board of Commissioners thereof; but the insane poor shall in all respects receive the same medical care and treatment, and be given as wholesome food, as is given to paying patients.

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
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